

SoftSDC Installation and User Manual

version 1.2





Table of Contents

Introduction.....	2
Chapter 1: What Is SoftSDC?.....	2
How Does SoftSDC Work?	2
Who Can Use SoftSDC?	2
Chapter 2: Before Installing the Package	3
System requirements.....	5
Chapter 3: Installing the Package	6
Software installation	6
Setup Wizard	6
Chapter 4: Using SoftSDC.....	11
Manage installed app	11
Context Menu items and service tray states	12
Select card reader	12
Send PIN.....	12
Audit.....	13
Start Remote Audit.....	13
Start Local Audit.....	13
Process Commands from Drive.....	14
Restart Service.....	15
Help.....	15
About	15
Status	16
Get Support.....	16
Open a Ticket at Support SoftSDC website.....	17
Manual	18
License	18
Tray icons and their meaning.....	18
Exiting S-SDC	20
Uninstalling the app	20
Chapter 5: API description	23
Chapter 6: Continuous processes	23
Chapter 7: FAQ Troubleshooting.....	24
Dependency Services	24
Error Codes.....	26
Manufacturer Error Codes (MSSC)	26
General (GSC).....	26
Chapter 8: Glossary	27



Introduction

This document covers the introduction of the SoftSDC (S-SDC) desktop application for Windows. The following topics are included in this guide:

- System requirements
- Software installation
- Working with Menu items

Chapter 1: What Is SoftSDC?

S-SDC is a Windows application that uses a web-based service intended for use by the Point of Sale (POS) devices for transformation of non-fiscal into fiscal invoices.

How Does SoftSDC Work?

S-SDC is a Windows service set up to open automatically when the computer-based POS launches, and user login is not required in order application to work.

S-SDC operates as a standalone service for one POS device exclusively, and this POS can be connected to the same computer or a different one. Communication with S-SDC is an exchange of JSON messages via web interface.

S-SDC shall not accept and process receipt information from POS containing tax label that differs from the ones that are official.

In order to create fiscal invoices, S-SDC service requires the use of Smart card containing Secure Element (SE), issued by FRCS. Operations between S-SDC and SE do not delay normal POS operations so that it affects user comfort.

S-SDC uses non-volatile memory of the computer that can retrieve stored information even after having been power cycled (turned off and back on). This memory is considered internal memory of S-SDC which can hold internal data before successful Proof of Audit (POA). S-SDC shall not overwrite or erase audit packages unless it's approved by POA.

The average size of an invoice ranges from 20 to 200 kB, depending on the number of the items on it. For computers working in offline mode, for each day of work in off-line mode, it is necessary to have space on the system drive (C:), between audits, as follows:

- a) 2MB daily, if issued on average 10 standard invoices (invoice up to 20 items)
- b) 20MB daily, if issued on average 100 standard invoices
- c) 200MB daily, if issued on average 1,000 standard invoices

S-SDC transfers internal data and invoice signature for each receipt processed of types N - normal, C - copy, T-training and P-proforma. It also creates a unique URL for generating a QR code provides mean of verifying receipt data integrity and authenticity in accordance with Regulation.

S-SDC can generate an invoice in both online and off-line mode (no internet connection available).

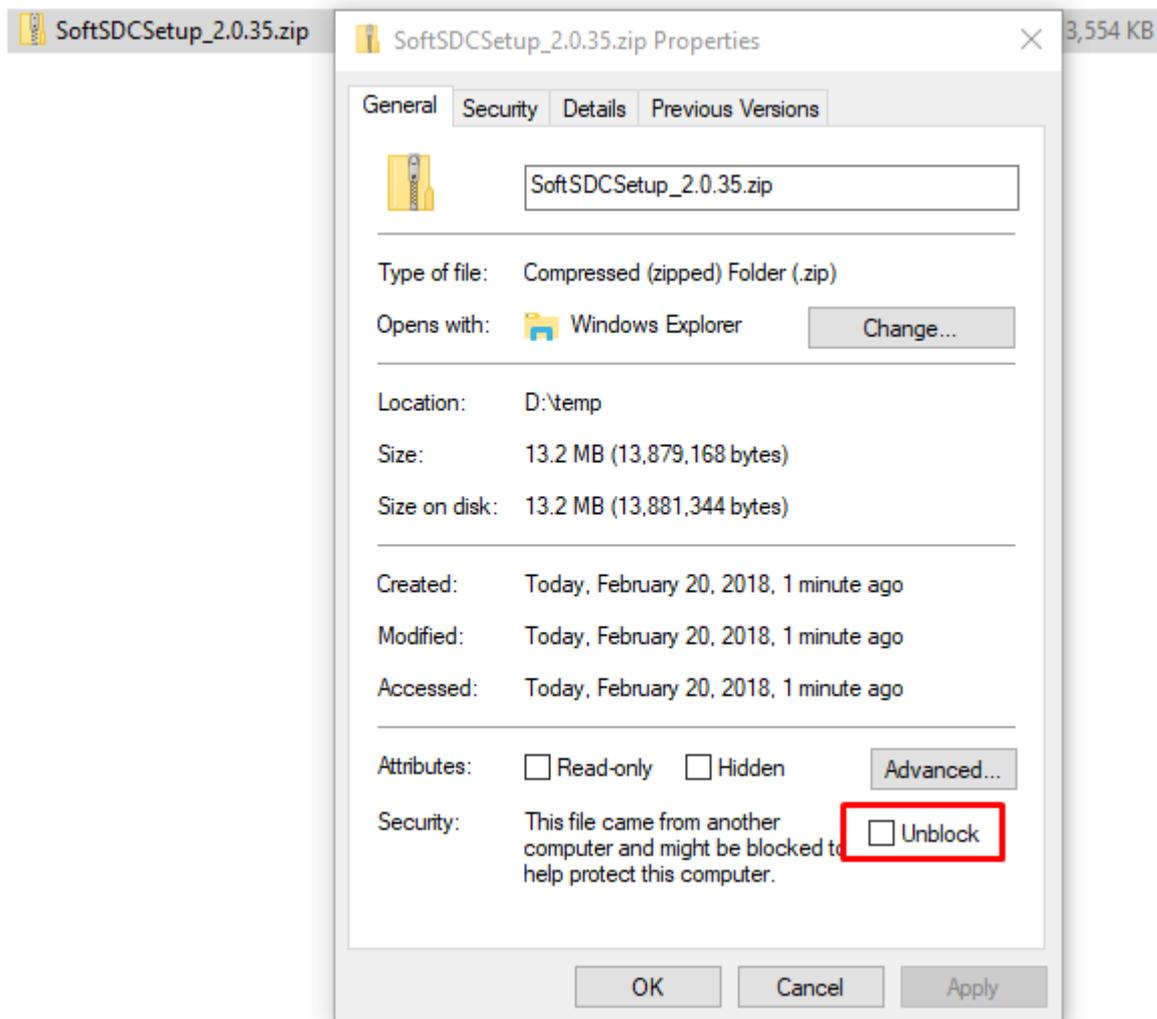
Who Can Use SoftSDC?

- Any taxpayer with a Smart card containing SE, issued by FRCS
- Any POS supporting request sending to the web service
- This package is accredited by FRCS and licensed



Chapter 2: Before Installing the Package

Installation package can be downloaded at www.softsd.com as a 4-day trial, after that, if you wish to continue using the application, you need to buy the activation code. Once you download the trial zip file, make sure to unblock the downloaded file (from the file properties, as per below screenshot), otherwise you might get a warning from your antivirus software:





S-SDC service uses native Windows Action Center messages as visual notifications, so make sure you have them turned on.

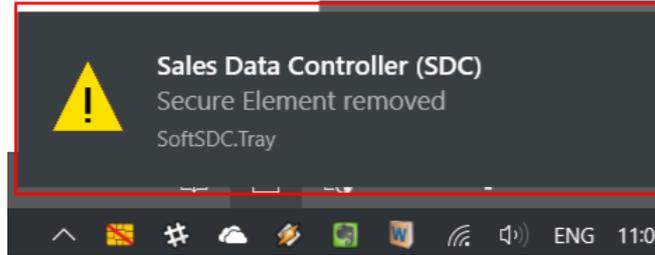


Figure 1 Action Center Message Win 10

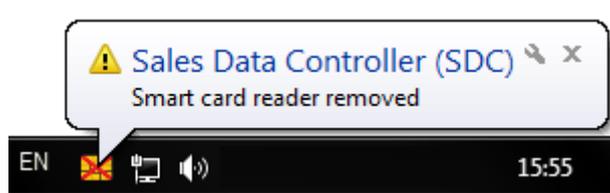


Figure 2 Action Center Message Win 7

NOTE: Make sure not to ever change the date and time settings on the computer running S-SDC service, for it's of the utmost importance regarding the exact date and time of the invoice issuing. If you issue invoices with invalid date and time, you could bear the legal consequences.

Every PC on which SoftSDC is installed contains a Real Time Clock (RTC) implemented in the hardware. This clock runs continuously and provides time to the operating system clock when the computer is booted. The RTC runs off the same power source as the system BIOS. Real-time clock should not differ by more than 3 minutes maximum per year at an ambient temperature of 20 degrees Celsius.

Make sure you have switched on "Set time automatically", before you run the installation package.

On Windows 10: Adjust date/time > Time & Language

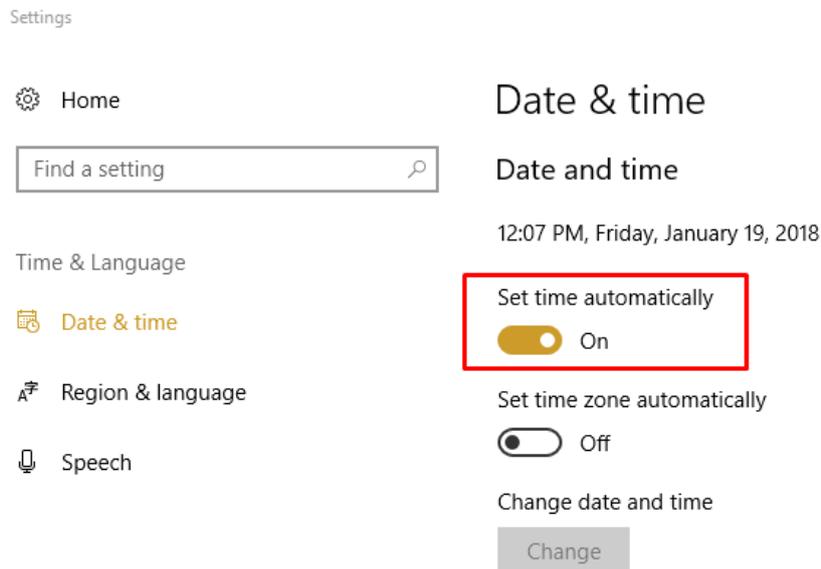


Figure 3 Set time automatically Win 10



On Windows 7: Control Panel > Date and Time > Internet Time

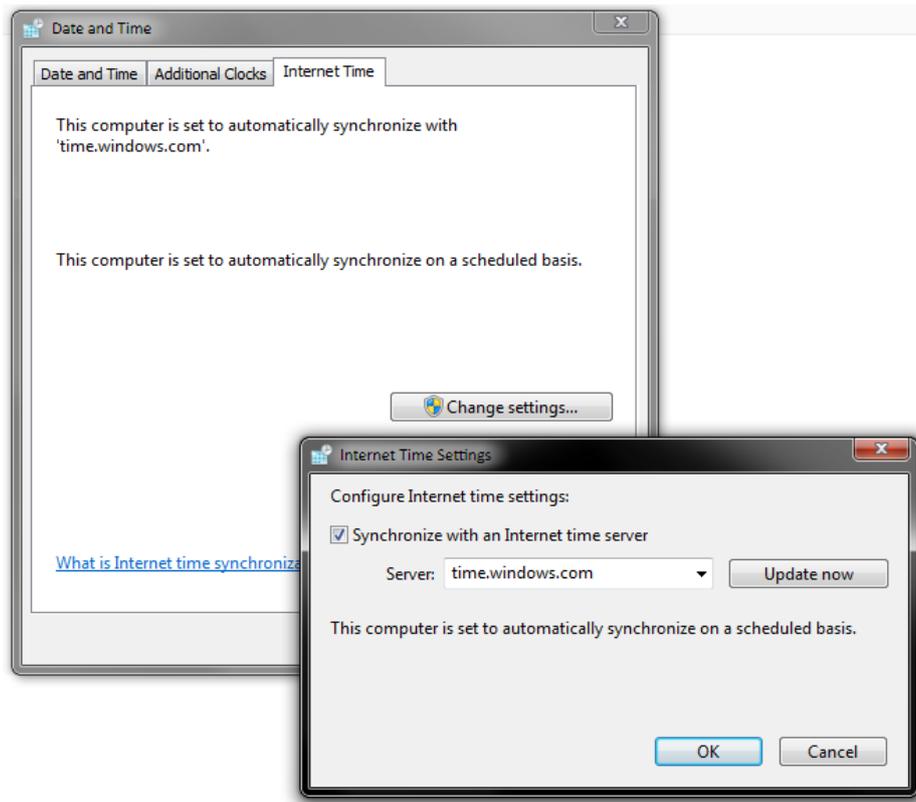


Figure 4 Synchronize with NTP Win 7

System requirements

SoftSDC has minimal requirements and in most cases, matches the requirements for a standard Windows environment

OS: Windows7 32bit

.NET 4.5.2

Network connectivity (Periodical Internet access at least once in 48 hours)

Smart card reader

Smart card issued by FRCS



Chapter 3: Installing the Package

Software installation

Setup Wizard

S-SDC installation file is a standard Windows .msi package and the Setup Wizard is also a standard Windows setup wizard.

In order to start the installation, browse for the location of the downloaded S-SDC zip package and unpack it. You will find two subfolders as following:

 FijiProduction	File folder
 FijiStaging	File folder
 !!! READ ME FIRST !!! .txt	Text Document

Figure 5 Content of installation zip package file

You can install only one copy at the time on one machine.

Depending on the purpose and the smart card that you use, you shall select one of the following installation folders:

1. FijiStaging to install SoftSDC which you will use for Fiji Staging VSM. Typically you are a POS developer developing and testing your product.
2. FijiProduction to install SoftSDC which you will use for Fiji Production VSM. Typically you are a Tax Payer or IT personnel installing and configuring SoftSDC on the premises.

Open the selected folder and double click on **setup.exe** file.

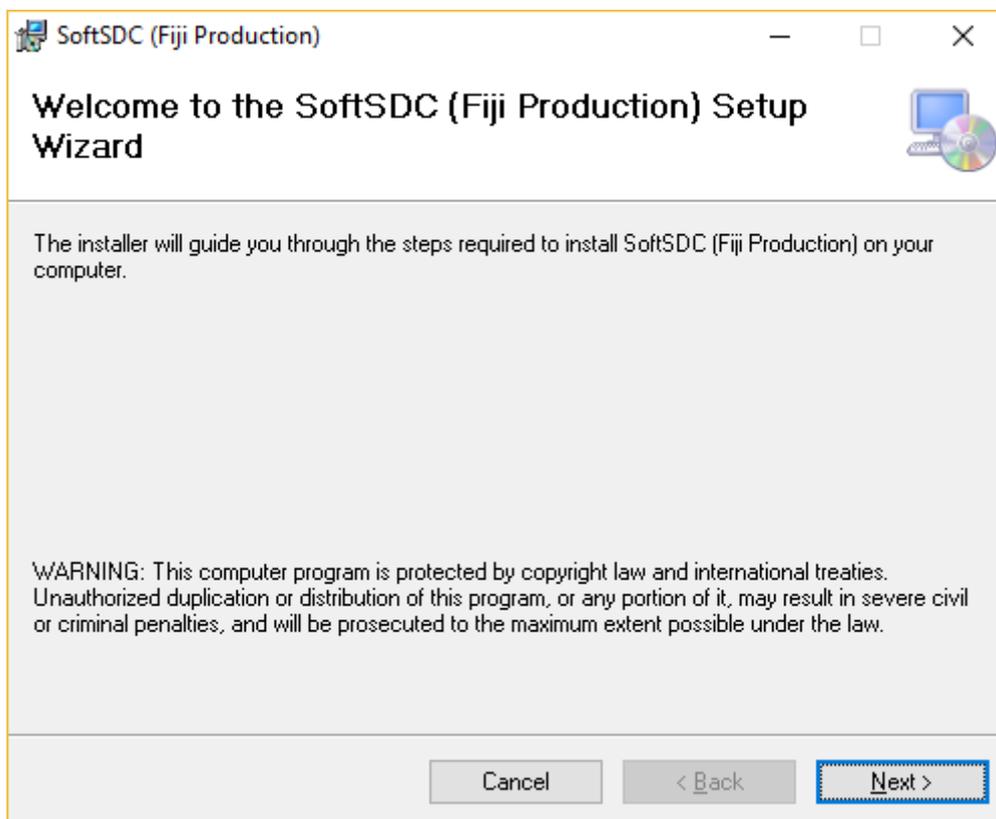


Figure 6 Welcome to Setup Wizard

Now follow the Wizard to complete the installation.

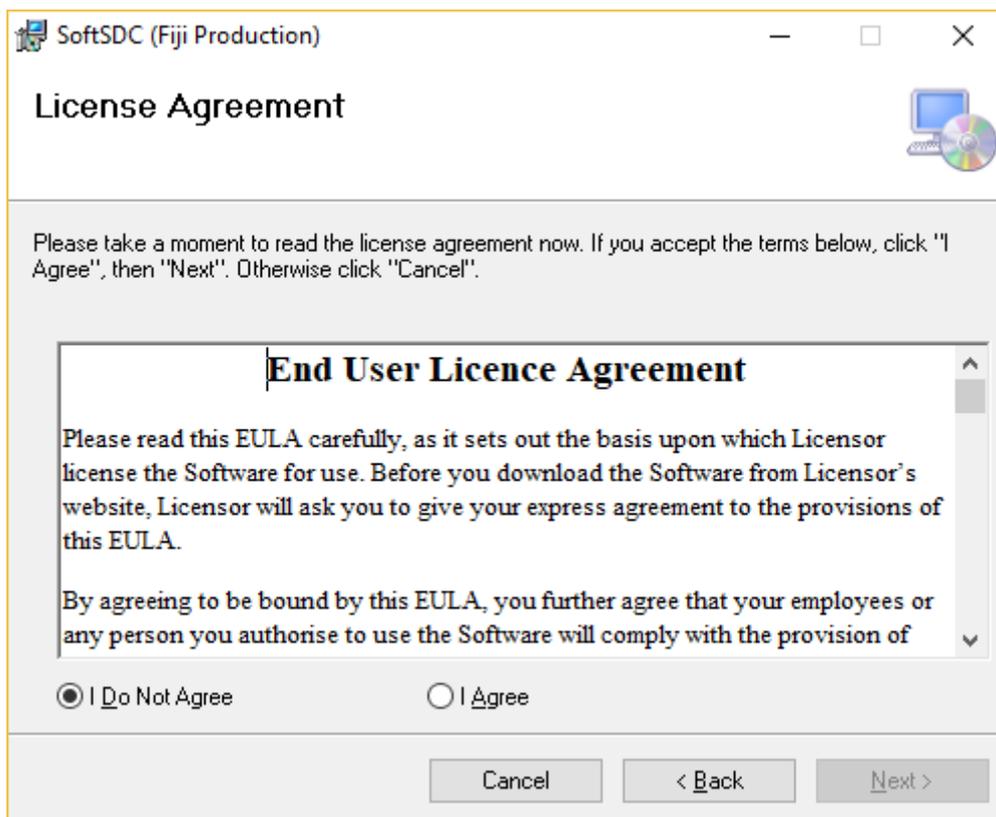


Figure 7 Accept License Agreement

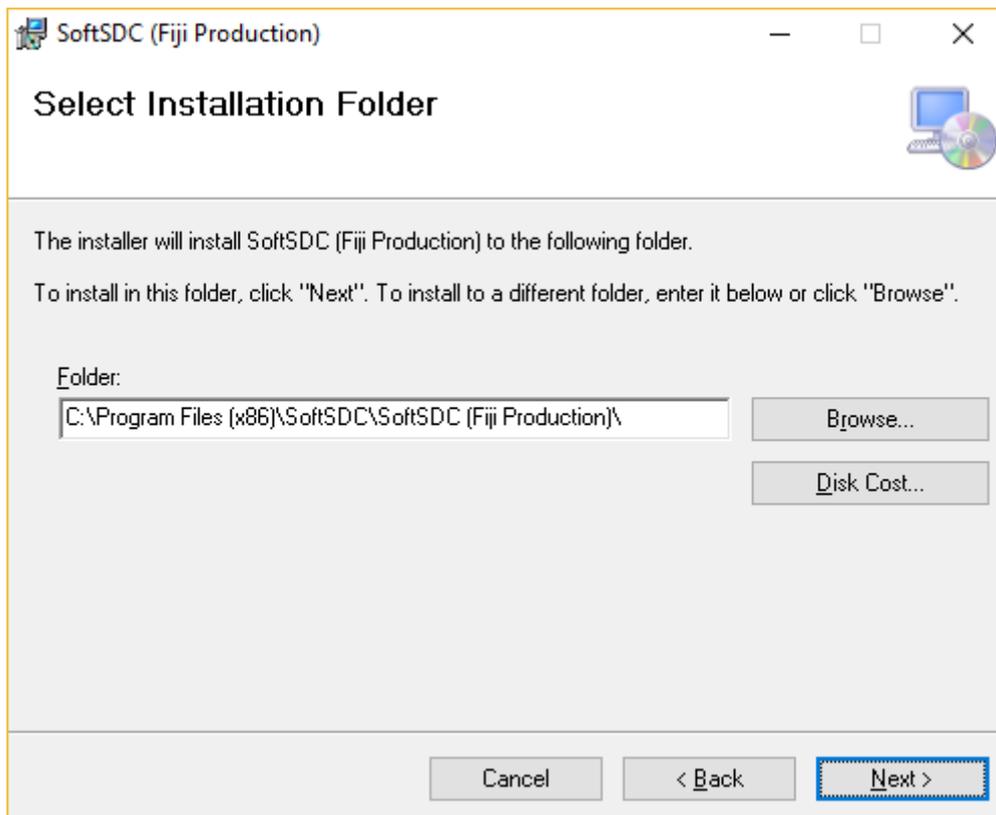


Figure 8 Select Installation Folder

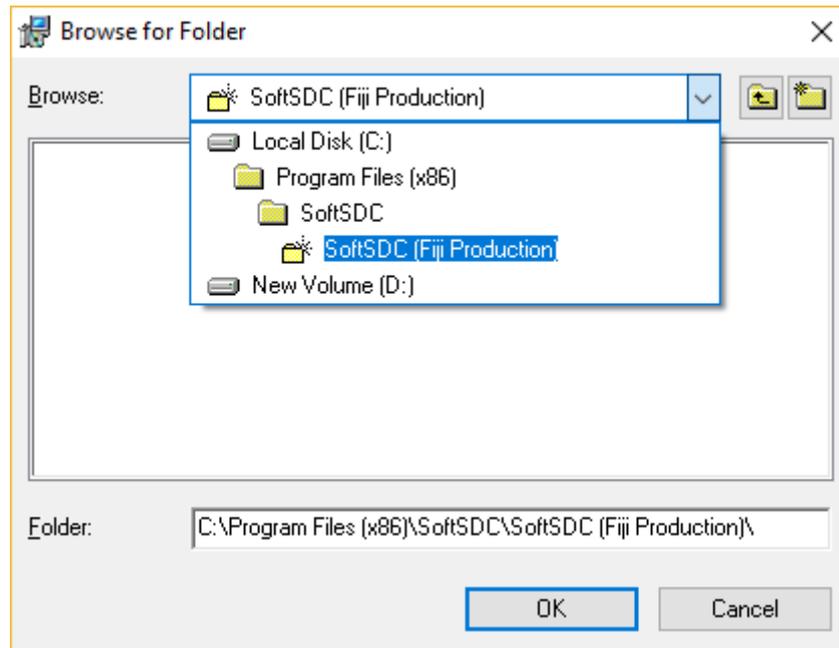


Figure 9 Browse for Folder

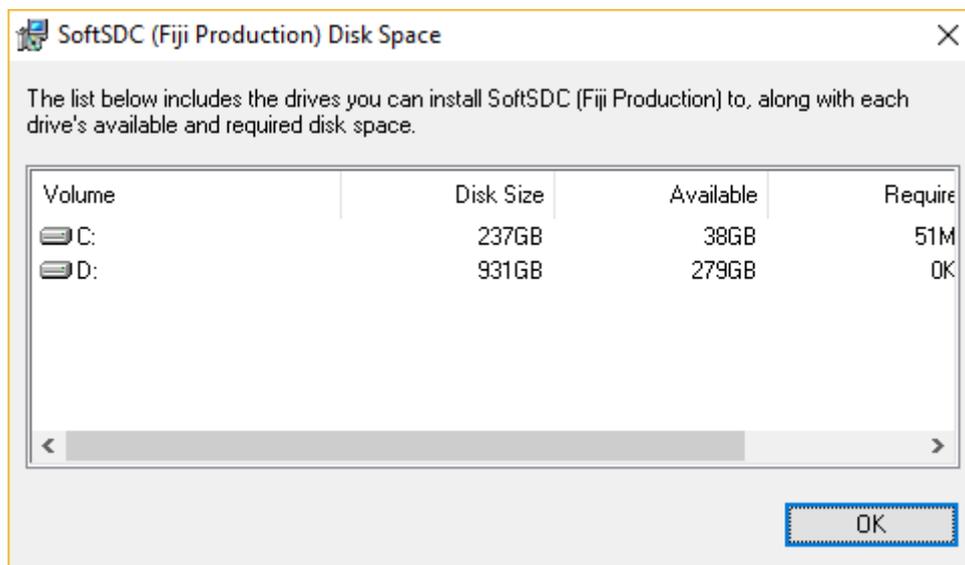


Figure 10 Disc Space

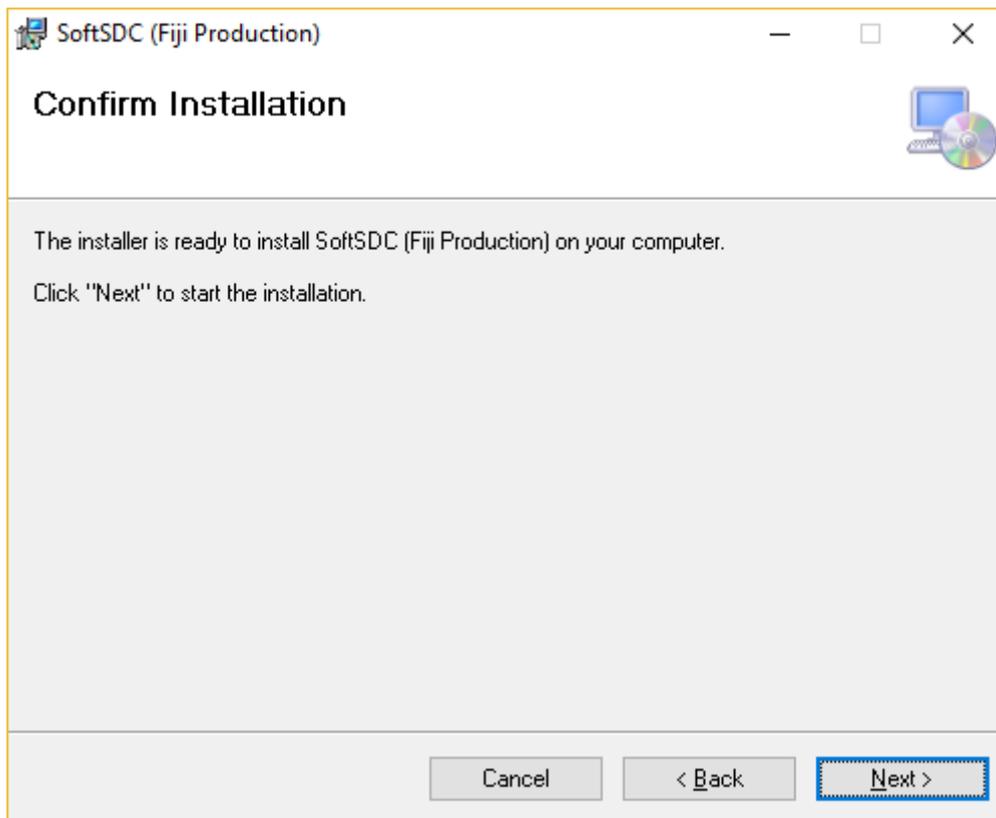


Figure 11 Confirm Installation

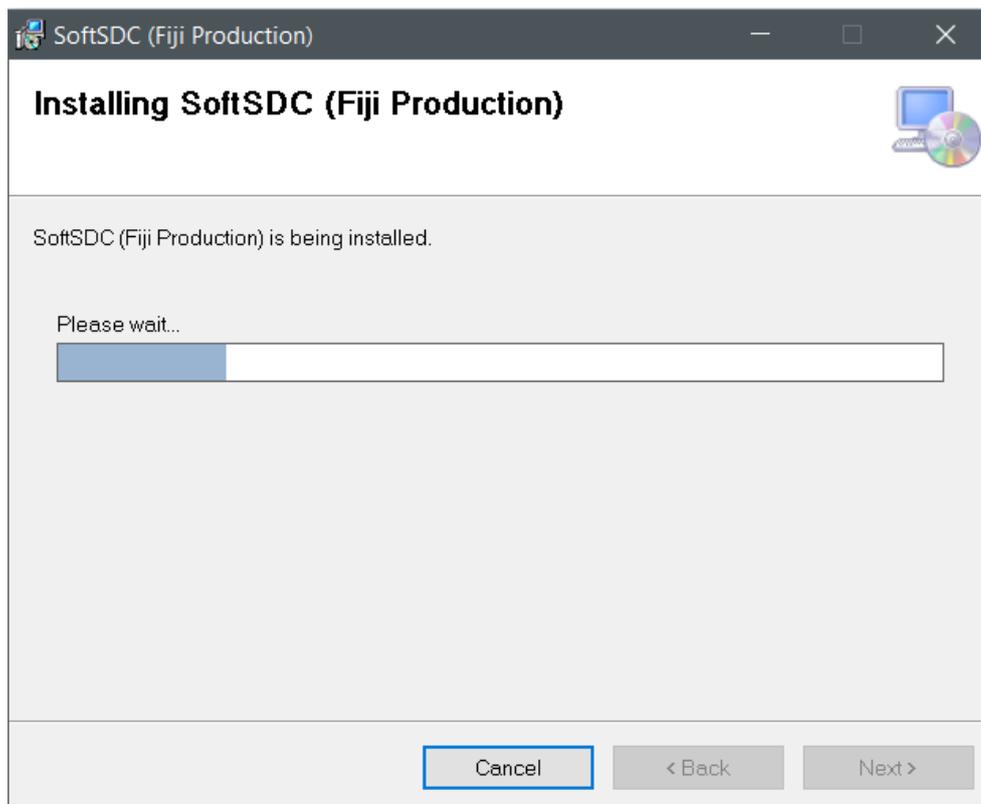


Figure 12 Installation is running

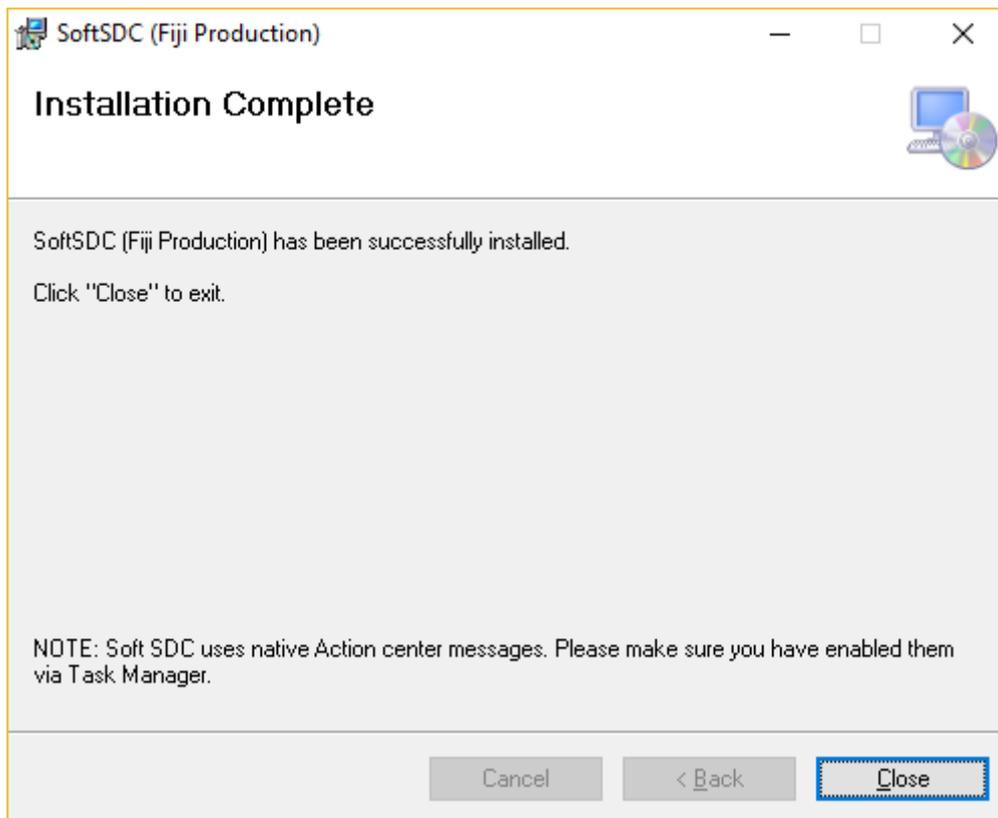


Figure 13 Installation Complete



Chapter 4: Using SoftSDC

Manage installed app

NOTE: After successful installation, launch the app by clicking on the Desktop shortcut created automatically during the installation.

HINT: You don't have to login each time you restart the computer – the service will start automatically, and API will be available for invoice signing once you insert the smart card and provide PIN.

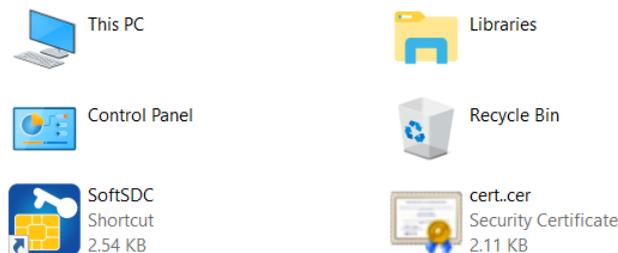


Figure 14 Launch S-SDC

Once you have launched the app, the service will start.

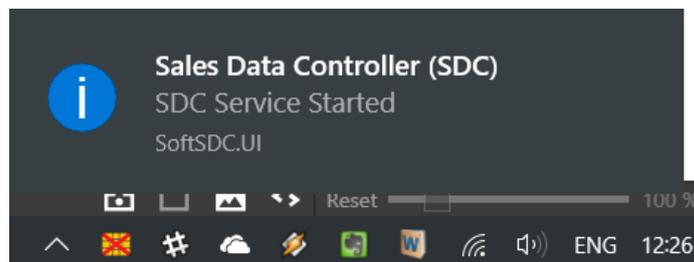


Figure 15 Service has started

NOTE: If you're using a Trial, you will get a notification about number of days and command executions you have left.

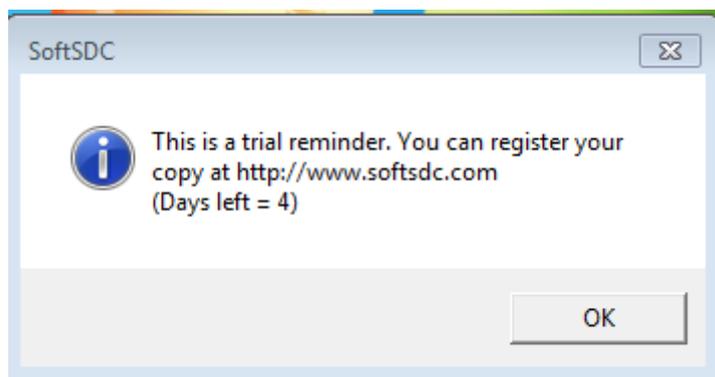


Figure 16 Trial reminder



Context Menu items and service tray states

The following section describes S-SDC context Menu items and their functions.

NOTE: S-SDC operates via context Menu as a main user interface. In order to access the Menu, right click on the tray icon.

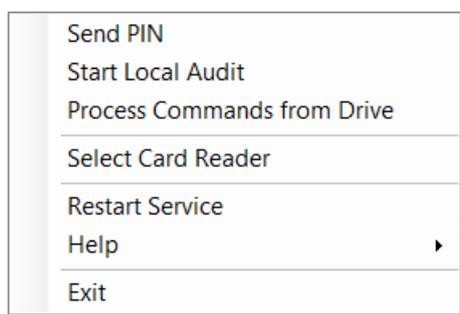


Figure 17 Main Menu

Select card reader

NOTE: If you haven't selected a card reader during the installation, you can do it once the service has started.

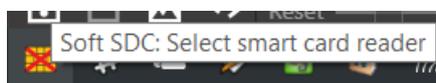


Figure 18 Card reader not selected

Right click on the tray icon and choose menu item **Select card reader**. When a dialog pops out, select your reader from the list and click OK.

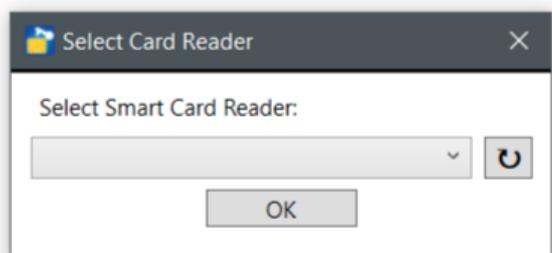


Figure 19 Select card reader

Send PIN

Next, you have to provide a valid PIN code, and you can do it by choosing menu item **Send PIN**.

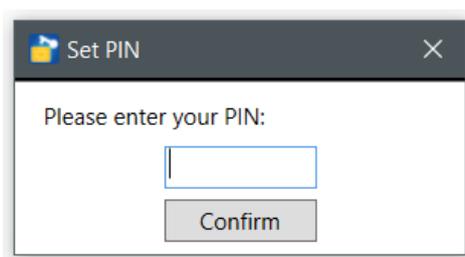


Figure 20 Enter valid PIN



If you have entered a valid PIN, you will get a notification:

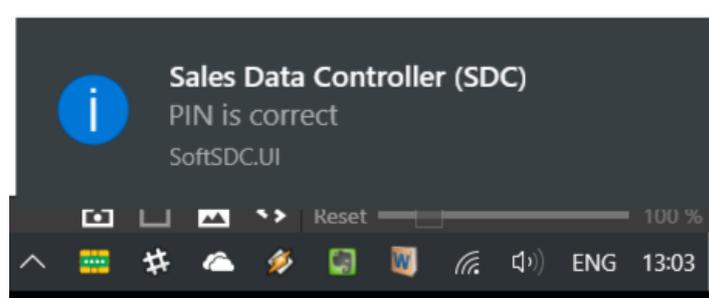


Figure 21 Valid PIN

If you have entered an invalid PIN, you will get a notification:

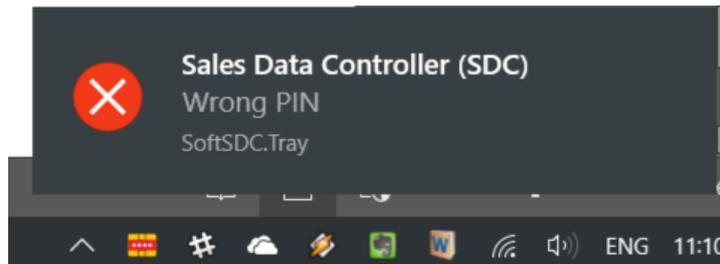


Figure 22 Invalid PIN

When you have entered the correct PIN and configured the service, you will be notified by the yellow tray icon:



Figure 23 Service is configured and ready

In case the tray icon becomes gray, this means that SoftSDC failed to get initialization commands (from FRCS) for the inserted smart card.

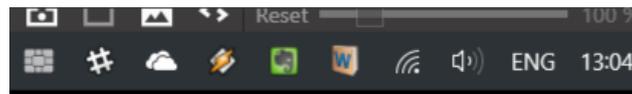


Figure 24 Service failed to get initialization commands

You can provide the commands either by connecting the computer to Internet prior to entering PIN, or manually as explained in section *Process Commands from Drive*. Note: S-SDC shall not store the Secure Element's PIN code except in the working memory. Once the S-SDC is restarted, the cashier will be required to enter the PIN code again.

Audit

S-SDC exports data for Service in two manners: Local Audit and Remote Audit and it notifies the user if remote audit or local audit is complete or error during this operation occurred. All audit data is being encrypted using AES-256 with Encryption Key as per Technical Requirements in the Regulation. Same audit formats are created in case of either local or remote audit.

Start Remote Audit

S-SDC shall send unsent audit packages when Remote Audit is performed. The S-SDC, once it is activated, if connection is available, transmits data from internal memory to the designated server of Service using Internet connection performing Remote Audit.

S-SDC can operate normally while registering transactions and sending audit data at the same time to Service's System

Start Local Audit

In order to start a local audit, choose menu item **Start Local Audit** and then select the drive (i.e. SD card or flash memory stick) where you have installed the application. S-SDC copies all of audit packages to designated drive when Local Audit is performed and creates a file name in the format specified in Technical Instructions. Note: Command execution takes precedence over local audit.



Figure 25 Select local Audit drive

Once you click Confirm, local audit data copying will start automatically.

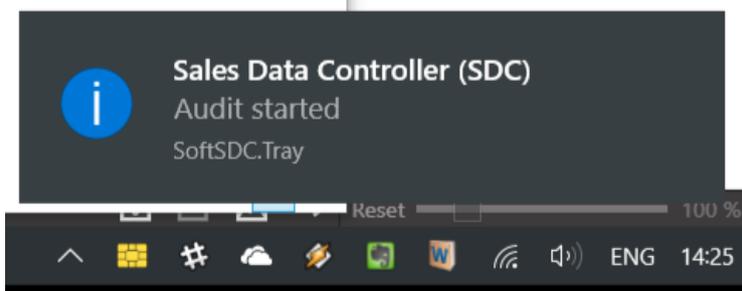


Figure 26 Local audit started

If Local audit was successful, you will get a notification.

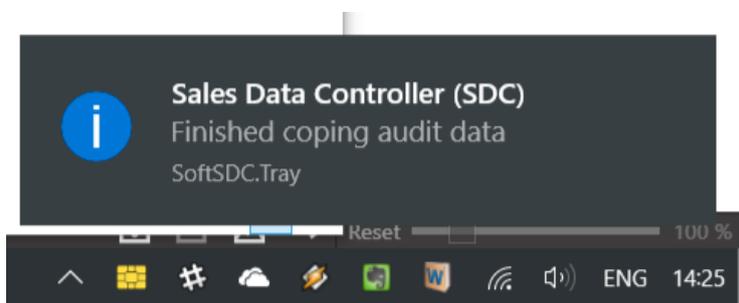


Figure 27 Audit data successfully copied

If Local audit was not successful, you will get a notification as well.

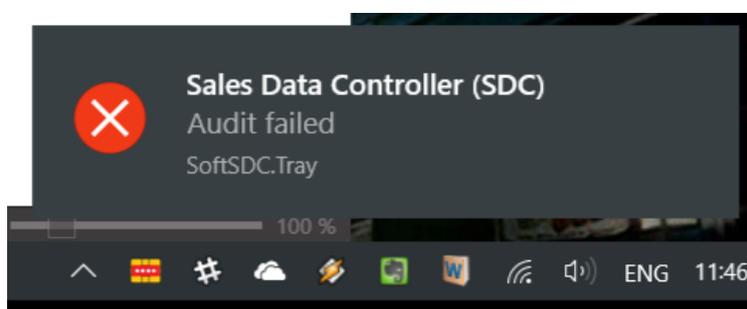


Figure 28 Audit failed

Process Commands from Drive

In order to start the commands loading, PIN must be provided prior to the further actions. Choose menu item Select Drive, and select drive where you have downloaded the commands for SDC Initialization from TAP portal. JSON file with commands is stored in subfolder named as UID.



Figure 29 Select drive with downloaded commands

Once the commands have been processed, you will be notified as per below image. In case your S-SDC remains non-configured (the icon is still grey), you will need to enter a valid PIN in order for configuration to be applied.

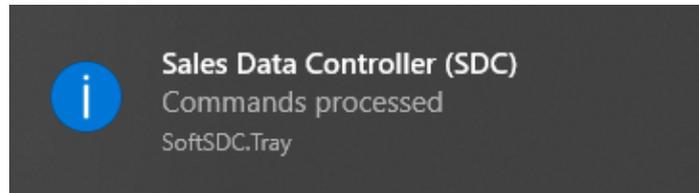


Figure 30 Notification after commands are processed

Restart Service

Should you experience any problems with the service, choose menu item Restart Service, and S-SDC will restart. After that, select card reader (optional) and enter PIN (mandatory).



Figure 31 Service is restarting

Help

There are several additional items in the Help section.

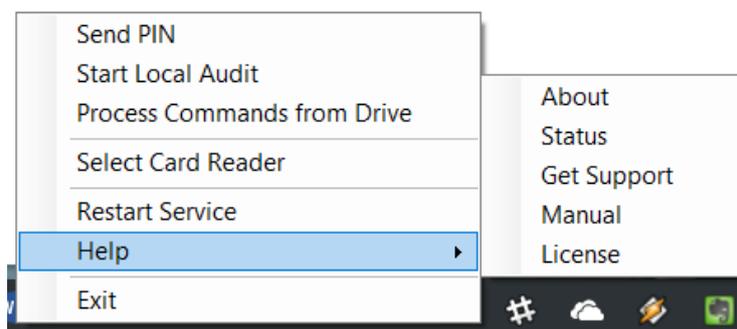


Figure 32 Help submenu

About

This is the message that shows some basic data regarding your computer and S-SDC version.



Figure 33 About S-SDC

Status

This is the message that shows current status of the service and your computer.

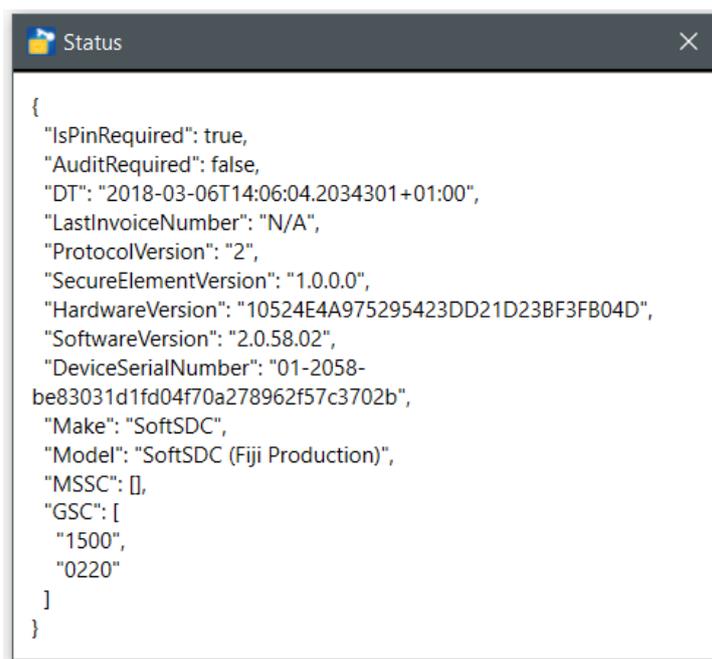


Figure 34 S-SDC Status

Get Support

When you experience any kind of problems with the service, and you cannot solve it, simply select **Get Support** and select the drive where you like to save troubleshooting data. It will be created automatically.

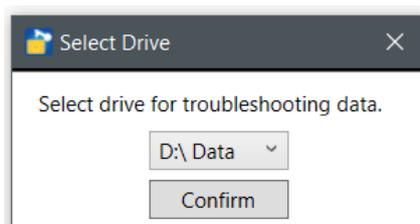


Figure 35 Select drive for troubleshooting data

When copying is finished, you will get the following message. Copy the S-SDC.zip file and send it to Support on <https://support.softsd.com/open.php>.

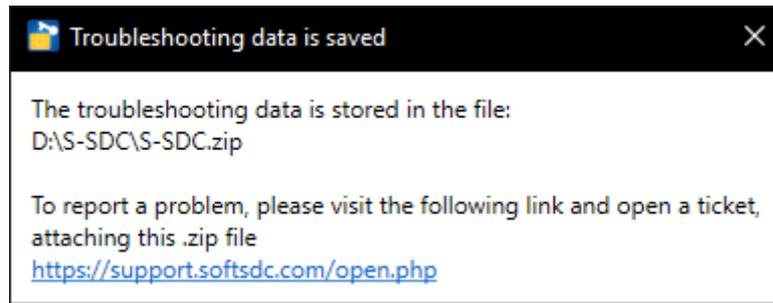


Figure 36 Troubleshooting data saved

Open a Ticket at Support SoftSDC website

Once you have successfully saved troubleshoot .zip file, visit the link <https://support.softsdc.com/open.php> and fill in the ticket form on the following page:

Figure 37 Open a ticket

Next, do the following:

1. Select a Help Topic: Report a Problem
2. Enter the Issue Summary
3. Describe the problems you have experienced prior to creating a troubleshoot file
4. Attach **S-SDC.zip** file
5. Enter captcha text
6. Click on Create a ticket



Manual

If you need instructions on how to use S-SDC service, select **Manual** and *SoftSDC Installation and User Manual.pdf* file will open.

License

If you have bought an activation code, you can activate your S-SDC package by choosing **License** and pasting the code into the input field.

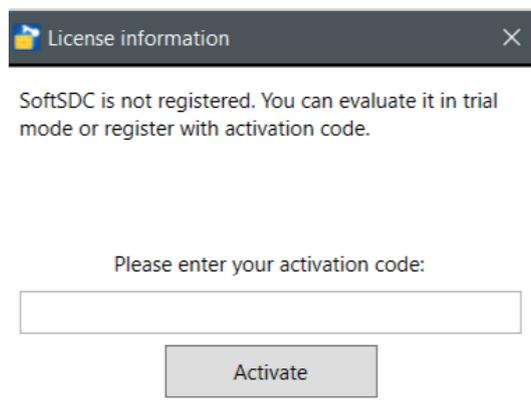


Figure 38 Input activation code

Tray icons and their meaning

Icon (img)	Meaning (tray icon tooltip)	Description (balloon message)
 desktop_02.ico	Desktop icon	
 desktop_02.ico	Setup icon	
 PIN_required.ico	Smart Card Inserted SoftSDC: Provide PIN for the Smart Card (Secure Element)	Sales Data Controller (SDC) Secure Element Inserted
 card_removed.ico	Smart Card Removed SoftSDC: Insert smart card (Secure Element)	Sales Data Controller (SDC) Secure Element removed
 initial_icon.ico	Initial icon (during initialization)	Sales Data Controller (SDC)
 valid_PIN.ico	Valid PIN provided SoftSDC: PIN is correct	Sales Data Controller (SDC) PIN is correct



 invalid_PIN.ico	<p>Invalid PIN provided</p> <p>SoftSDC: Provide PIN for the smart card (Secure Element)</p>	<p>Sales Data Controller (SDC)</p> <p>Wrong PIN</p>
 not_configured.ico	<p>Not Configured</p> <p>SoftSDC: Check Internet and provide PIN, or provide commands</p>	<p>Sales Data Controller (SDC)</p> <p>SDC is not configured</p>
 PIN_required.ico	<p>PIN Required</p> <p>SoftSDC is not configured. Send PIN for the Secure Element</p>	<p>Sales Data Controller (SDC)</p> <p>SDC is not configured</p>
 audit_required_02.i co	<p>Audit Required</p> <p>SoftSDC: Audit is required for this smart card</p>	<p>Sales Data Controller (SDC)</p> <p>Audit is required!</p>
 card_not_available_ 02.ico	<p>Smart Card Not Accessible</p> <p>SoftSDC: SE problem. Check if smart card in present</p>	<p>Sales Data Controller (SDC)</p> <p>Secure Element not accessible</p>
 reader_not_selecte d.ico	<p>Card Reader not selected or present</p> <p>SoftSDC: Select smart card reader</p>	<p>Sales Data Controller (SDC)</p> <p>Smart card reader removed</p>
 card_inserted.ico	<p>Configured and operational</p> <p>SoftSDC: Sales Data Controller (SDC) is operational</p>	<p>Sales Data Controller (SDC)</p> <p>Sales Data Controller is operational</p>
 service_not_runnin g.ico	<p>Service is not running</p> <p>SoftSDC: Service is not running. Restart the service</p>	<p>Sales Data Controller (SDC)</p> <p>SDC Service Stopped</p>
 clock_02.ico	<p>SoftSDC: System clock problem. Connect this computer to Internet</p>	<p>Sales Data Controller (SDC)</p> <p>Clock on this computer is not valid</p>
 working_offline.ico	<p>SoftSDC: Sales Data Controller (SDC) is operational (OFFLINE)</p>	
 working_offline_sta rt.ico	<p>SoftSDC: Check Internet and provide PIN, or provide commands</p>	



Exiting S-SDC

In the cases when you need to close the S-SDC service, right click on the tray icon and select Exit. Prior to shutting down, S-SDC will display the following message:

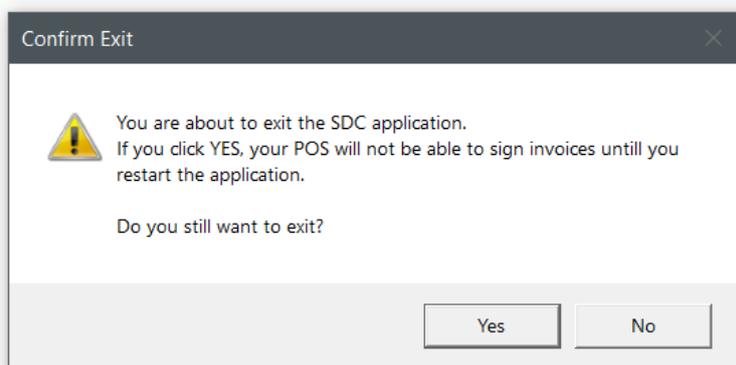


Figure 39 Exit confirmation

Uninstalling the app

The client software can be removed through a few simple steps.

1. Log into the Windows system as a user with administrator-level access.
2. Open the Windows Control Panel and select "Programs and Features".
3. Right-click on *SoftSDC* and select Uninstall (or Repair).

Organize ▾ Uninstall Change Repair				
Name	Publisher	Installed On	Size	Version
SoftSDC (Fiji Production)	SoftSDC	06-Mar-18	23.1 MB	2.0.58

Figure 40 Control panel - Programs and features



Figure 41 Uninstalling confirmation



When you try to uninstall S-SDC, if you have any unsent Audit packages, you will get the message informing you about the number of pending packages and your options. You can either:

- send them manually by browsing for files located in the folder titled AuditDataOutbox, or
- reinstall the application so that they can be sent automatically

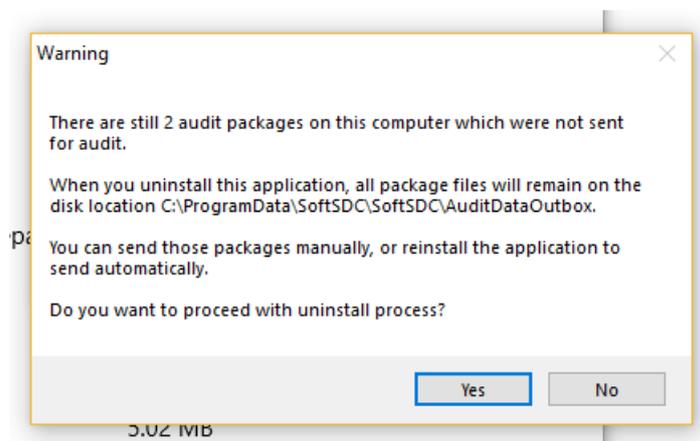


Figure 42 Warning about pending Audit packages

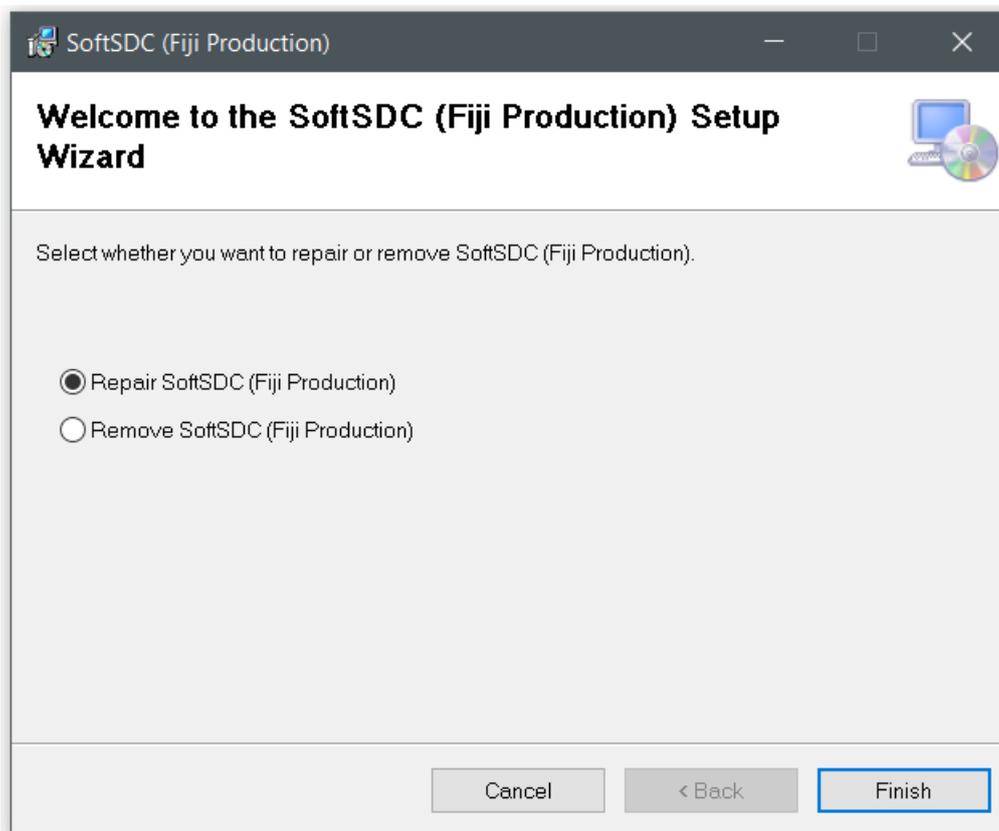


Figure 43 Select Uninstall or repair

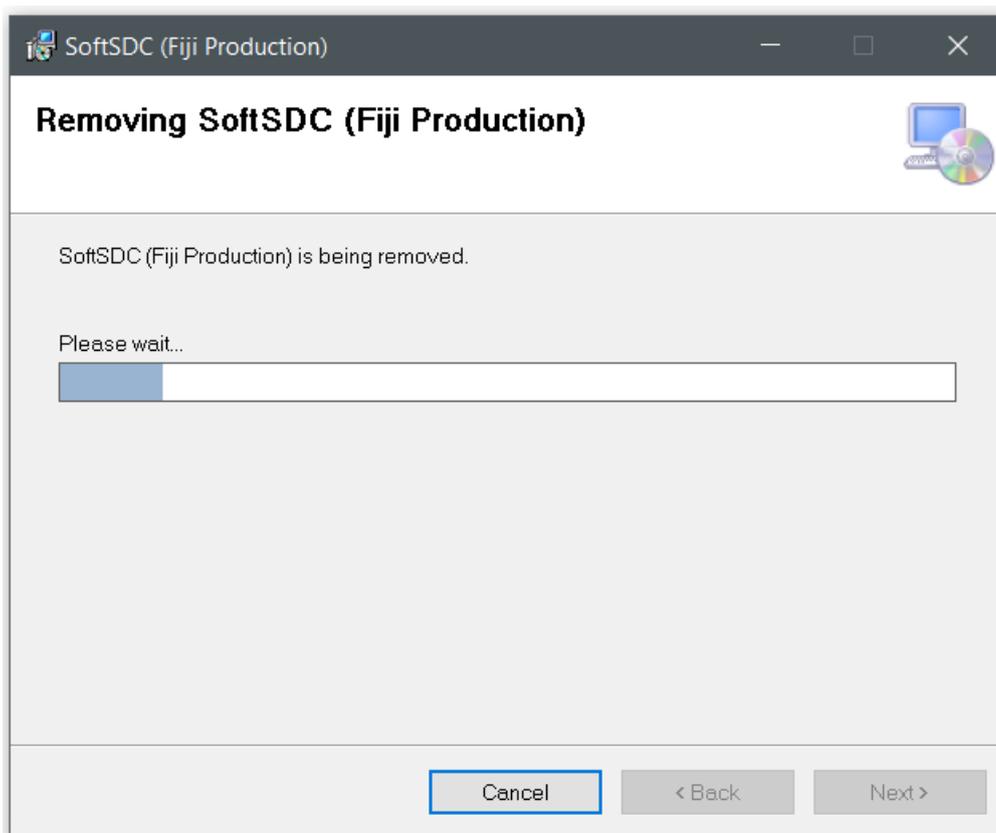


Figure 44 Uninstalling in progress

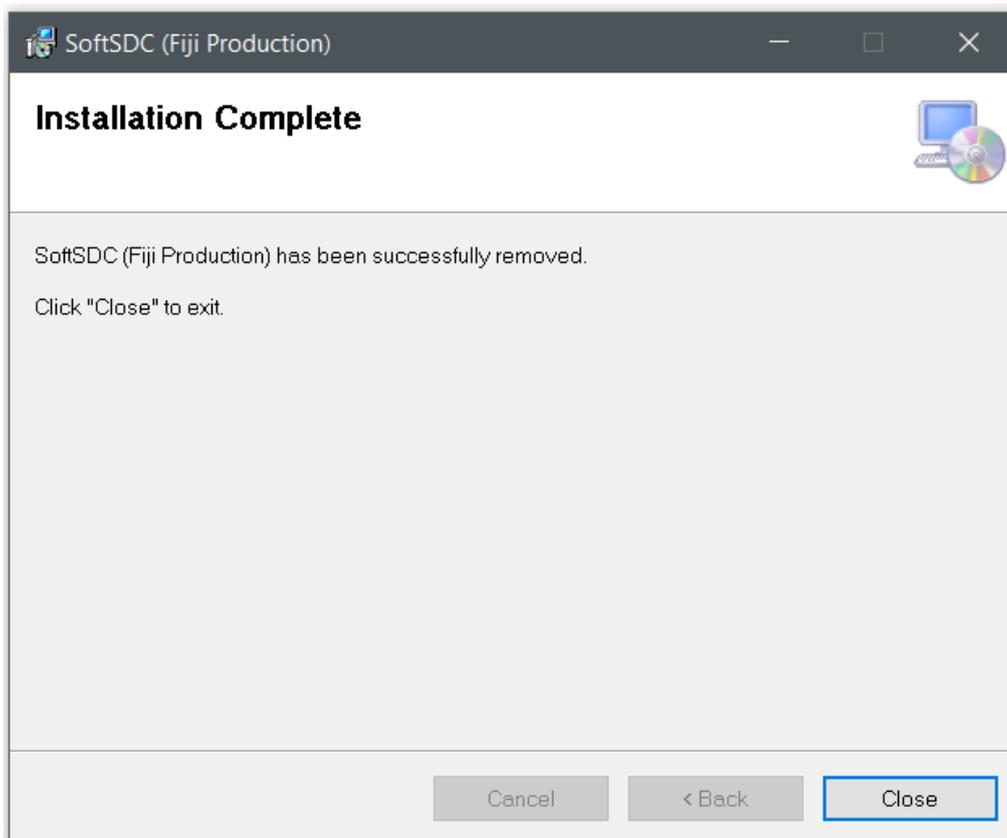


Figure 45 Uninstall complete



Chapter 5: API description

This chapter contains elements from the official Technical Instructions for E-SDC developers, published on FRCS website, and S-SDC supports only the part related to JSON via HTTP. It also contains manufacturer specific info.

All commands shall be sent via HTTP protocol, to the IP address of the computer with installed SoftSDC, using the default port 8180. If there is a firewall on that computer, or between POS and that computer, make sure firewall is not blocking port 8180. You can always check connectivity using the below Telnet (or similar tool) command from the POS computer (<https://social.technet.microsoft.com/wiki/contents/articles/38433.windows-10-enabling-telnet-client.aspx>):
telnet <SoftSDC IP address> 8180

Chapter 6: Continuous processes

S-SDC continuously processes following commands received from FRCS server, or locally via drive:

- Configure Time Server URL Command
- Set Tax Rates Command
- Update Verification URL Command
- Proof of Audit Command

Note: Command execution takes precedence over local audit.

Note: SoftSDC shall process all commands received from the Tax Service's system in a consecutive order

- S-SDC continuously syncs date and time with NTP specified in command received from FRCS server.
- S-SDC submits a proof of audit (PoA) requests to SE and FRCS server.
- S-SDC continuously submits audit packages to FRCS server.
- S-SDC continuously notifies FRCS server when it is online.

S-SDC shall authenticate with a valid Digital Accreditation (stored in the PKI applet of the Secure Element) when requesting authentication token from the FRCS backend. S-SDC uses authentication token when calling the FRCS backend API web services.



Chapter 7: FAQ | Troubleshooting

Dependency Services

SoftSDC depends on the following services, and each of them must be enabled and running. Both services are enabled by Windows default settings. In case any of the services is disabled or stopped, SoftSDC service will fail to start and you will get the following message when trying to (re)start it.

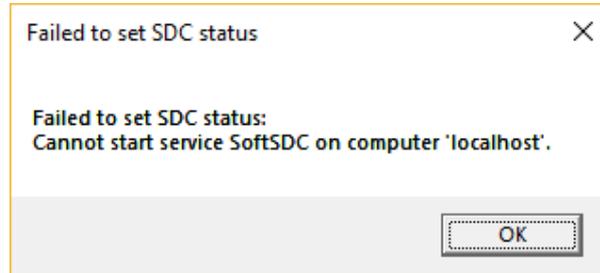


Figure 46 Failed to set SDC status

- Windows Time.
- Smart Card. In case this service is disabled, SoftSDC service will fail to start and you will get the following message when trying to select a card reader:

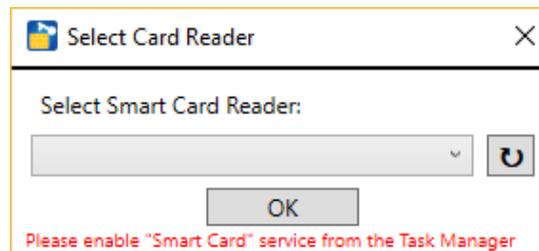


Figure 47 Enable Smart Card service

You can enable/start either of these services from *Task Manager* -> *Services* tab, or using the following steps:

1. Hit Windows key on keyboard, type “Services”
2. Click on the *Services* icon

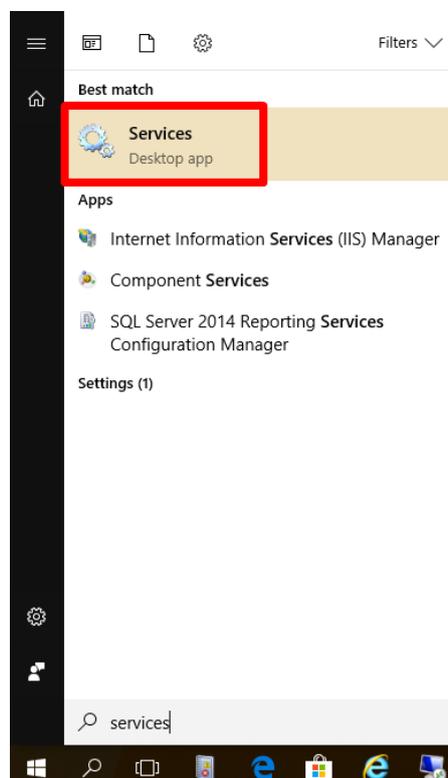


Figure 48 Browse for Services



3. Right-click on one of the stopped/disabled services
4. Select Properties
5. Change *Startup type* to Manual or Automatic
6. Select Start

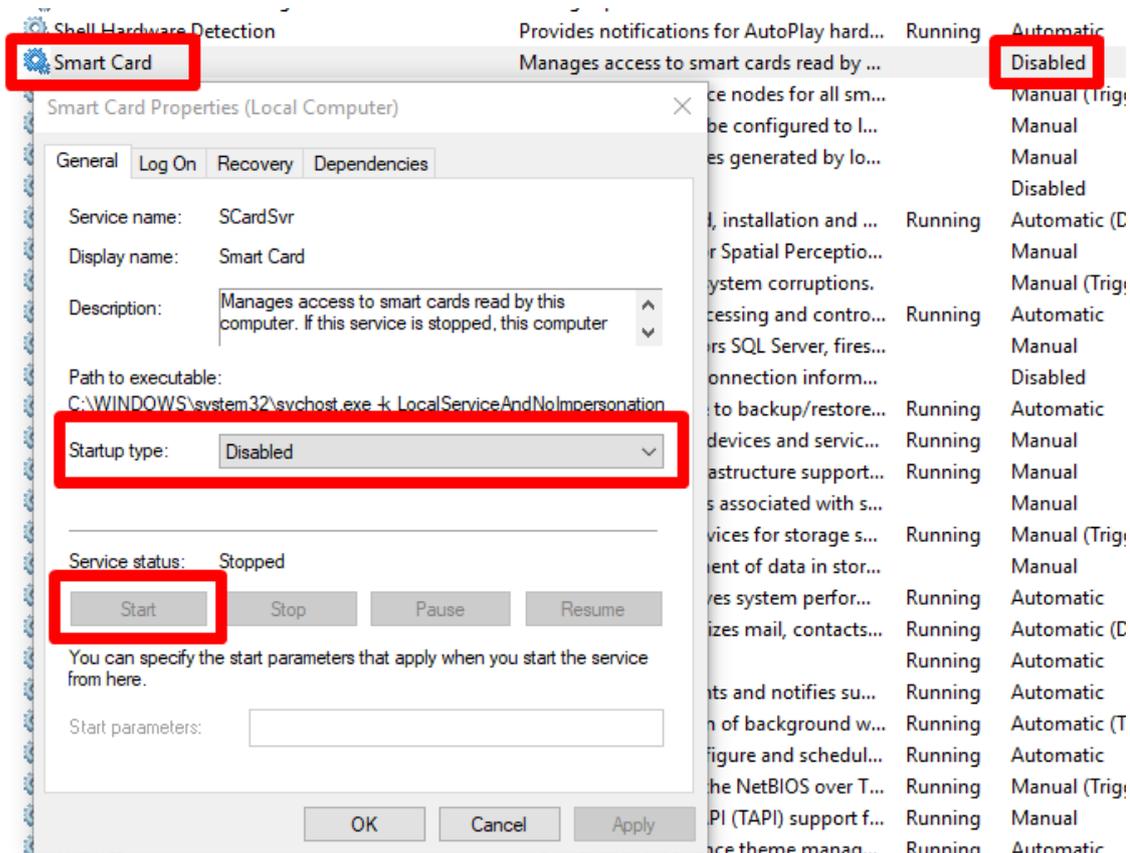


Figure 49 Enable Smart Card Service



Error Codes

Manufacturer Error Codes (MSSC)

Code	0-Info 1-Warning 2-Error	Meaning
	INFO	
3100	Card Reader Missing	The card reader is not connected or selected

General (GSC)

Code	0-Info 1-Warning 2-Error	Meaning
	INFO	
0000	All OK	Command is executed without warnings or errors
0100	Pin OK	This code indicates that the provided PIN code is correct
0210	Internet Available	Internet Connection is available (optional)
0220	Internet Unavailable	Internet Connection is not available (optional)
	WARNINGS	
1100	Storage 90% Full	Storage used to store audit packages is 90% percent full. It is time to perform the audit.
1300	Smart Card is not present	Secure element card is not inserted in the smart card reader
1400	Audit Required	Total Sale and refund amount reached 75% of SE limit. It is time to perform the audit
1500	Pin Code Required	Indicates that POS must provide the PIN code
1999	Undefined Warning	Something is wrong but specific warning is not defined for that situation
	ERRORS	
2100	Pin Not OK	PIN code sent by the POS is invalid
2210	SE Locked	Secure Element is locked. No additional invoices can be signed before the audit is completed
2220	SE Communication Failed	SoftSDC cannot connect to the Secure Element applet
2230	SE Protocol Mismatch	Secure Element does not support requested protocol version (reserved for later use)
2310	Invalid tax labels	Tax Labels sent by the POS are not defined
2400	Device Not Configured	SDC device is not fully configured for invoice signing (i.e. tax rates or verification URL are missing etc.)
2800	Field Required	The field is required



2801	Field Value Too Long	The length of the field value is longer than expected
2802	Field Value Too Short	The length of the field value is shorter than expected
2803	Invalid Field Length	The length of the field value is shorter or longer than expected
2804	Field Out Of Range	The field value out of expected range
2805	Invalid Field Value	The field contains invalid value
2806	Invalid Data Format	The data format is invalid
2807	List Too Short	The list contains less than minimum required elements count
2808	List Too Long	The list exceeds maximum allowed elements count.
	MSC	
3101	Audit Drive Not Found	The storage media specified for audit does not exist
3102	Audit Folder Access Denied	The directory specified for audit is not accessible
3103	Not Enough Space for Audit	Not enough space on a storage media specified for audit
3104	Commands File Not Found	Storage media specified for processing does not contain file with commands from TaxCore
3105	Invalid Proof of Audit	Commands file contains invalid ProofOfAudit command for this Secure Element

Chapter 8: Glossary

JSON (JavaScript Object Notation)
 Network Time Protocol (NTP)
 Point of Sale (POS)
 Proof of Audit (POA)
 Secure element (SE)
 Software Sales Data Controller (SoftSDC / S-SDC)