



Fiscalization Service

(Version v08)

Technical Specification

Versions

Version	Description of Change
v01	Initial Version
v02	<p>Shortened filed names.</p> <p>Added additional error codes.</p> <p>Added WTNIC code generation chapters.</p> <p>Added test and production URL-s.</p> <p>Terminology which is used in the Law inserted into the introduction chapter</p>
v03	<p>Changed endpoint URL-s.</p> <p>QR code generation modifications, terminology changed</p> <p>Register invoice chapter changes:</p> <ul style="list-style-type: none"> • Check date and time sent control moved from mandatory to optional controls <p>Register invoice request data message changes:</p> <ul style="list-style-type: none"> • Issuer element renamed to Seller (in below changes renamed element will be referred with a new name) • Seller NUIS attribute replaced with IDNum and IDType attributes • Seller Address, Town and Country attributes changed to optional • Buyer NUIS attribute replaced with IDNum and IDType attributes • CashRegister attribute renamed to TCRCode • TCRCode attribute changed to optional • Fees list element added • PayDeadline attribute added • PaymentMethod attribute replaced with PayMethods element list • BusinUnit attribute renamed to BusinUnitCode • SoftNum attribute renamed to SoftCode • Currency element added, Currency Code and ExRate attributes added • SupplyDateOrPeriod element added, SupplyDateOrPeriod Start and End attributes added • SameTaxItems element renamed to SameTaxes • SameTaxes Items element renamed to SameTax • ConsTaxItems element renamed to ConsTaxes • ConsTaxes Items element renamed to ConsTax • SameTaxes element changed to optional • Simplified invoice TypeOfInv type added • TypeOfInv enumerations changed • TypeOfSelfIss enumerations changed • SelfIssuing attribute removed • SumCompCard attribute added • GoodsExport attribute renamed to GoodsExAmt • RR changed to mandatory • InvNum attribute removed • InvOrdNum attribute renamed to InvNum • BadDebt attribute renamed to IsBadDebt • IsBadDebt attribute changed to mandatory • ReverseCharge attribute renamed to IsReverseCharge • IssuerInVAT attribute renamed to IsIssuerInVAT • Item VR, VA, R, RR changed to optional • Item EX attribute added • SameTax ExemptFromVAT attribute added • Renamed UP attribute to UPB • Added UPA attribute • Buyer attributes changed to optional

Version	Description of Change
	<ul style="list-style-type: none"> IsSubsequentDelivery moved to the Header element Added check is issuer active and VAT obligated <p>Register TCR chapter changes:</p> <ul style="list-style-type: none"> Renamed to Register TCR Added additional description. Added general mandatory controls Added send time mandatory control <p>Register TCR request data message changes:</p> <ul style="list-style-type: none"> RegDateTime attribute removed BusinUnit attribute renamed to BusinUnitCode TCROrdNum attribute renamed to TCRIntID TCRIntID data type changed to string SoftNum attribute renamed to SoftCode ManufacNum attribute renamed to MaintainerCode Added ValidFrom and ValidTo attributes SoftCode and MaintainerCode attributes changed to optional <p>Register TCR response data message changes:</p> <ul style="list-style-type: none"> TCRNumber element renamed to TCRCode TCRCode data type pattern changed <p>Register TCR cash balance chapter changes:</p> <ul style="list-style-type: none"> Renamed to Register cash deposit Added additional description. Added general mandatory controls Added send time mandatory control <p>Register cash deposit request data message changes:</p> <ul style="list-style-type: none"> TCRNumber attribute renamed to TCRCode TCRCode data type pattern changed Operation enumeration changed to INITIAL, INOUT IsSubsequentDelivery moved to the Header element <p>Register cash deposit response data message changes:</p> <ul style="list-style-type: none"> FCDC element added <p>Chapter PKI renamed to Digital certificates and provided additional description.</p> <p>Error message changes:</p> <ul style="list-style-type: none"> RequestUUID element changed to optional ResponseUUID element added <p>Added deregistration TCR method</p> <p>Controls:</p> <ul style="list-style-type: none"> Common mandatory controls added to separate chapter. Optional controls renamed to additional controls Removed list of additional controls <p>Warehouse transfer note chapter content removed.</p> <p>Updated XML samples.</p> <p>Added additional error codes.</p> <p>Added .NET C# sample code for signature generation.</p> <p>Added Id and Version attributes.</p> <p>Modified schema patterns to take into account eager validation.</p>
v04	<p>Changed InvNum attribute pattern.</p> <p>Changed negative decimal attribute pattern.</p> <p>Changed QR code sample input parameters.</p> <p>Added additional description for TCRIntId attribute.</p> <p>Added register WTN method.s.</p>

Version	Description of Change
	<p>Added new mandatory Type attribute in register TCR request method.</p> <p>Removed MVOUCHER payment type.</p>
v05	<p>Changed Kosovo country 3 alpha code.</p> <p>Changed production certificate issuing CA.</p> <p>Added additional cash limit description.</p> <p>Added payment method types allowed values.</p> <p>Minor modification dateTime data type fields.</p> <p>Added additional restriction for INITIAL cash deposit.</p> <p>Changed total amount payment limit for CASH invoice type.</p> <p>Added additional description for invoice export feature.</p> <p>Increased allowed characters number in address fields.</p> <p>Unit price fields changed to allow only positive values. Quantity fields changed to allow negative values.</p> <p>UPA attribute changed to required.</p> <p>Change at TCR, update only "ValidTo" field.</p>
v06	<p>Added additional exempt from VAT enumerators.</p> <p>Cash deposit INOUT operation split to WITHDRAW and DEPOSIT.</p> <p>Removed Cash deposit change time check.</p> <p>Added bad debt to register invoice request message. Removed IsBadDebt attribute.</p> <p>Added IsBuying attribute currency exchange.</p> <p>Modified foreign currency rules.</p> <p>Added voucher item attributes inside item.</p> <p>Added additional exempt from VAT types.</p> <p>Payment method Amt attribute changed from optional to mandatory.</p> <p>Added IsInvestment attribute.</p> <p>Added sample code for response signature validation.</p> <p>IsSubseqDeliv attribute replaced with SubseqDelivType attribute.</p> <p>Removed attribute WTN.IsAfterDel.</p>
v07	<p>RegisterInvoiceRequest.Invoice.Currency.IsBuying attribute changed to optional</p> <p>Added Invoice.IsEInvoice attribute.</p> <p>From Invoice.PayMethods.PaymentMethod.Type removed NONCASH as allowed type for ORDER type.</p> <p>WTNOrdNum and InvOrdNum changed to unbounded integer XSD type.</p> <p>Added option Z for UTCSType.</p> <p>Added TRL for currency.</p> <p>Added additional checks:</p> <ul style="list-style-type: none"> • IsEInvoice check • TotPriceWoVAT amount check • InvNum check • IssueDateTime of original invoice check • Fixed buyer and seller checks
v08	<p>Increased allowed length for buyer and seller name, address and town fields.</p> <p>Added WTN QR code chapter.</p> <p>Added additional mandatory checks for RegisterInvoice method (marked with yellow).</p> <p>IsEInvoice check to be mandatory for e-Invoice</p>

Related Documents

Document Name	Description
Fiscalization Service - Functional specification	All processes described.

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1. Introduction

This document provides a description of the data interface for invoice and acknowledgement of data messages containing information on sales which the taxpayers are obliged to send for every sale made and subject to registration of Sales, i.e. invoices issued.

Files containing definition of the XML schema and the Web service (WSDL), which describe the structure of the registered invoice data messages and the Web service used to receive them are provided as Annexes 6.3 and 8 to this document.

This document provides specification for the fiscalization service version 3.

Old deprecated service version will be available for 4 weeks after the new version is released. Date when a new version is released can be found at GDT website.

1.1 USED ABBREVIATIONS

Abbreviation	Description	Terminology used in the Law (if it is different)
CA	Certificate Authority	-
CIS	Central Invoice System	-
CPCM	CPCM is central portal for the control and management of taxpayers in the cash transaction subsystem	-
CRL	Certificate Revocation List	-
FIC	Fiscal Identification Code (generated at server side after successful verification of the invoice)	UII – Unique invoice identifier
FWTNIC	Fiscal WTN Identification Code (generated at server side after successful verification of the warehouse transfer note)	UWTNI - Unique Warehouse Transfer Note Identifier
GUID	Global Unique Identifier	-
IIC	Invoice Identification Code	ISC - Invoice Issuer's Security Code
WTNIC	WTN Identification Code (warehouse transfer note identification code)	WTNISC - Warehouse Transfer Note Issuer's Security Code
NUIS	National Unique Identification Number	NUIS/NIPT
OCSP	On-Line Certificate Status Protocol	-
SOAP	Message exchange protocol for XML messages as specified at: https://www.w3.org/TR/soap/	-
TCR	Taxpayer Cash Register. The same as billing device or electronic cash device.	Taxpayer's electronic cash device
TCRCode	Taxpayer Cash Register Code.	Taxpayer's electronic cash device code
UC	Use case	-
UUID	Universally Unique Identifier	-
WSDL	Web Services Description Language –XML-based language for description of functions offered by a WWW service as specified at http://www.w3.org/TR/wsdl	-
XML Schema	A XML-based language intended for definition of XML document structure as specified at http://www.w3.org/TR/xmlschema11-1/	-

Abbreviation	Description	Terminology used in the Law (if it is different)
	and https://www.w3.org/TR/xmlschema11-2/	

Table 1 – Used abbreviations

1.2 TERMINOLOGY

Term	Definition	Terminology used in the Law (if it is different)
Response data message	A data structure in a defined format prescribed by the financial authority, which contains the Fiscal Identification Code (FIC) and is used as acknowledgement of invoice and formal correctness of the registered invoice data message sent.	A data structure in a defined format prescribed by the financial authority, which contains Unique invoice identifier (UII) and is used as acknowledgement of invoice and formal correctness of the registered invoice data message sent.
Error Data Message	A data structure in a defined format prescribed by the financial authority, which contains an error code and its text description as a reaction to a registered invoice data message received containing critical errors preventing it from being processed, or when another error occurs which prevents the message being processed at the tax authority's side.	-
Invoice	An invoice is a proof of sale issued (in paper form or electronically) by a taxpayer to a person or entity making a purchase, which contains all information regarding totals of the sale and items. Invoice shall mean any document issued in paper or in electronic form, which satisfies the requirements provided under the draft Law "ON INVOICES AND THE SYSTEM FOR MONITORING TRANSACTIONS"	-
Issuer	Person who is issuing the invoice. Issuer of the invoice is responsible for the fiscalization of the invoice in CIS. This person is in most cases the seller of goods and services but in case of self-billing invoice, the issuer is the buyer of goods and services.	-
Registered Invoice	Invoice which is registered on CIS containing FIC.	Invoice which is registered on CIS containing UII.
Registered invoice data message	A data structure in a defined format prescribed by the fiscal authority, which contains information about the sale and other technical information necessary. This is a complete XML message containing information described in the relevant Web service standards: SOAP/WSDL/WS-Security, etc. A registered invoice data message is sent by an electronic cash device to the tax authority's common technical equipment (Central invoice system)..	-
Central invoice platform	Central invoice platform is a web application for taxpayers providing support for invoice fiscalization processes.	-
Taxpayer's cash register/electronic cash device	Taxpayer's cash register or electronic cash device is a device on the taxpayer's side, which sends information on registered invoices to the tax authority (to the Central Invoice System). This may signify, depending on	-

Term	Definition	Terminology used in the Law (if it is different)
	the context, an end device such as a cash register, or additional SW and HW actually sending the registered invoices information. The data messages include an item marked as "Electronic cash device code", which identifies the end device (electronic cash device). In other parts of the text, this term usually means the end device and the relevant SW and HW sending the data messages.	

Table 2 - Terminology

2. Environments

The government will publish Web service addresses for two types of environments: production environment and one or more test environments:

- **Non-production environment** will be used solely by software developers (developing software for cash registers), not by cash registers' end users. Sending a data message to the non-production environment shall not be considered sending of registered invoice information. The FIC returned by the non-production environment is not a valid FIC (it is different per prefix). In the non-production environment, digital certificates for cash registers may be issued using a simplified process.
- **Production environment** is intended for the taxpayers and will be used for routine operations, i.e. receipt and acknowledgement of data messages containing information on registered sales.

Endpoints:

- Test environment:
 - <https://eFiskalizimi-test.tatime.gov.al/FiscalizationService-v3/FiscalizationService.wsdl>
- Production environment:
 - <https://efiskalizimi.tatime.gov.al/FiscalizationService-v3/FiscalizationService.wsdl>

2.1 PREPARATION WORKS FOR FISCALIZATION SERVICE USE

Details on this matter can be found in Fiscalization Service - Functional specification, chapter that covers this subject. Below is the process diagram.

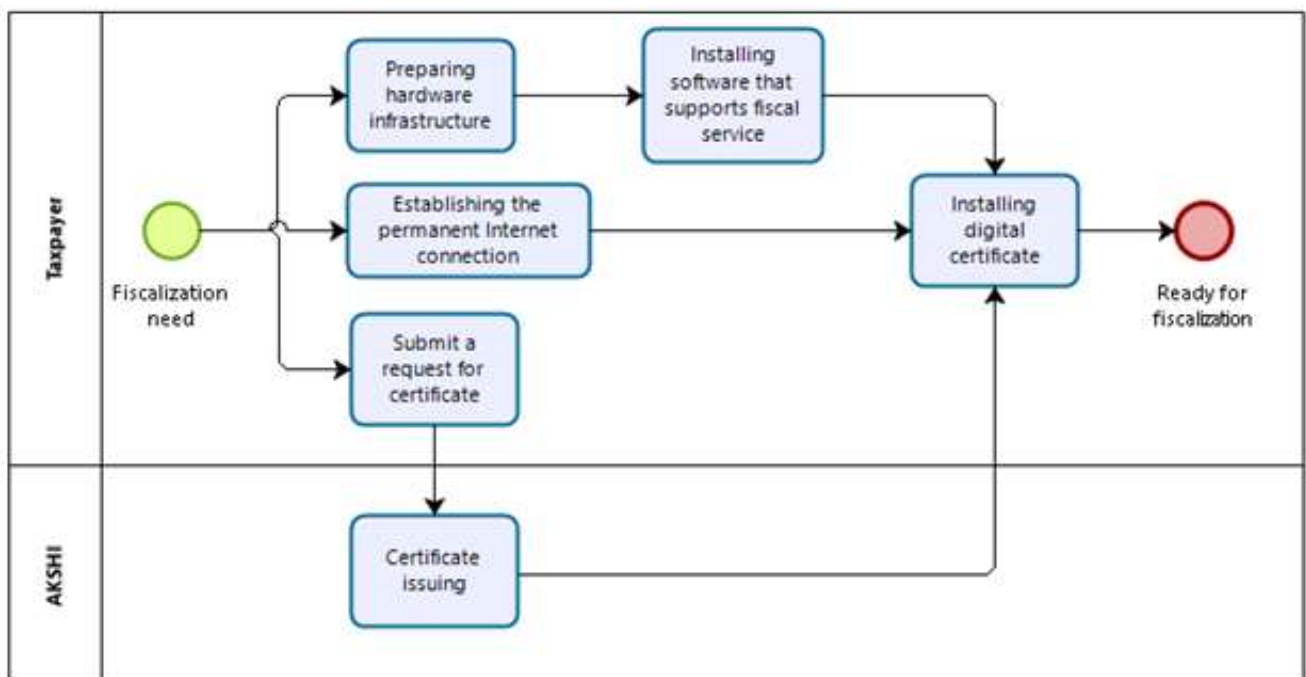


Figure 1 – Preparation activities for using a fiscal service

2.2 TOPOLOGY

Users access the CIS by initiating 1-way TLS connection. Clients exchange messages with Tax administration's access point using TLS channel by described procedure. Data exchange is synchronous, meaning access point answers on user's request immediately. Request and response messages formats are specified through XML schema.

2.2.1 CIS ACCESS POINT

Implementation and maintenance of the access point is a TBD's task. TBD company will provide its users connection to the access point in two environments: production and test.

2.2.2 INTERNET CONNECTION

Access point will be available through internet networks in HTTPS protocol.

2.2.3 INFORMATION SYSTEM OF THE CLIENT

Clients are obliged to provide hardware and software support for messages exchange with access point. As shown on image below, there is no mediatory component development planned. Development of the hardware-software solutions is in client's domain of business. Client is also obliged to secure internet connection to CIS access point with needed bandwidth. Platform choice and software solution implementation is in client's domain and such information is not needed to be reported to TBD company.

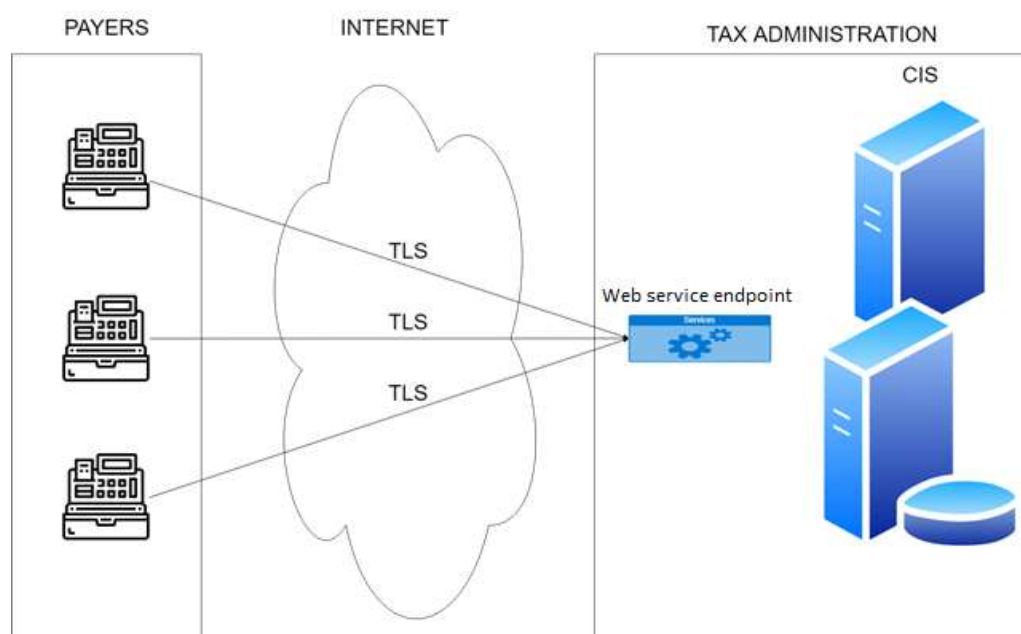


Figure 2 – Information system of the client

2.3 CONDITIONS FOR CONNECTION TO CIS

Central information system (CIS) of the Tax Administration will be available in two environments: production and test.

Connection conditions are similar but differ in addresses of their access points and certificates. Both, in production and test environment certificates are issued by NAIS. Environments are not different in its functionality (besides new functionalities development), only difference is in data – test environment uses test data.

2.3.1 NETWORK PRECONDITIONS AND RECOMMENDATIONS

To connect to the CIS of the Tax Administration, client system needs to fulfil these conditions:

Network type	Internet
Recommended open TCP ports to CIS	443

Network recommendations for client system are:

Link characteristics	Permanent symmetric link
Bandwidth	2 Mb/s at minimum (up to 40 messages per second with assumption that message takes 6 KB)

2.3.2 SECURITY PRECONDITIONS

All communication with CIS of the Tax Administration is protected by 1-way TLS encryption at the transport layer. In production environment CIS presents itself to client with a TLS certificate issued by NAIS production CA, while in test environment the certificate is issued by NAIS test CA.

Protection at the transport layer	HTTPS (TLS v1.1 and v1.2, AES_256 encryption at least)
Certificates for the electronic signing	Certificate type: application digital certificate for fiscalization

2.3.3 APPLICATION PRECONDITIONS

CIS functionality is available to its clients using web-service technology. For that reason, client's application (or infrastructure, depending on realization) needs to fulfil these preconditions:

Client creation standards	WS-1
Service type	Document-literal
Application protocol	SOAP/HTTPS (SOAP 1.1)
Code site of the request message XML	UTF-8

3. Interface

Interface for exchanging the data between the taxpayer and CIS regarding the fiscalization will be SOAP web service. Messages are in XML format according to the standards of SOAP messages.

The web service has several operations which will be used by the taxpayer who needs to do the fiscalization of the invoices. Invoices are issued by the electronic cash device represented by its code (for cash transactions). The code is assigned in operation of registration of electronic cash device which needs to be executed during the installation of each electronic cash device. At the beginning of each day, electronic cash device which handles cash transactions must register the amount of cash in the deposit and only then it should start to issue invoices. Each invoice must be registered to the fiscalization service and upon successful registration the invoice is assigned with a FIC which is printed on the invoice together with other mandatory invoice elements. In case that the invoice needs to be corrected, new corrective invoice is issued with a reference to the invoice which needs to be corrected. During the day, electronic cash devices for cash payments should have the possibility for the taxpayer to see the current cash balance (it is recommended to do it when the operators of electronic cash device changes) as well as notify the Tax Administration through fiscalization service of any withdrawal or extra deposit of cash in the cash register. Each of this operation is explained in its chapter together with the list of elements of the exchanged messages.

Taxpayers should also register warehouse transfer notes for all goods transferred between warehouses and sale premises inside territory of Republic of Albania in situations specified by the Law “on invoice and system for monitoring transactions” and its bylaws.

Message sent by the taxpayer to CIS is the request message to which CIS replies by sending the response message. In case of an error, the error message is sent in the response with its structure. Request and response messages (except for the error message) all have the following parts: header (general info about the message), data (data specific for the operation), signature (digital signature signed by the person who is sending the message which provides the identity of the sender and info to verify that the data of the message is not changed). Signature is explained in chapter 5.3.

3.1 INTERFACE VERSIONING

Versioning of the fiscalization service will be based on semantic versioning schema. Each version has a version number assigned expressed as “MAJOR.MINOR.PATCH” each of which are integers incremented according to these rules:

- MAJOR version is increased when there are incompatible API changes. New interface will be provided, and old interface will remain for some period. Clients are expected to upgrade to new version as described in release notes of the new version.
- MINOR version is increased when a functionality is added in a backwards-compatible manner. Current interface remains compatible with current clients, but new functionalities are added which can or should be used. Clients are expected to upgrade to new version as described in release notes of the new version.
- PATCH version is increased when there are backwards-compatible bug fixes. Current interface remains the same.

Service endpoint will have a context suffix -vMAJOR, e.g. /FiscalizationService-v3. This means that at one moment there might be several active service endpoints with different MAJOR versions but each of them will always have the latest MINOR and PATCH versions.

3.2 DATA MESSAGE CODING

All items in all data messages will only use selected characters encoded as a single byte in a standard decimal ASCII character set. The allowed decimal codes are 9, 10, 13, or 32 to 126.

UTF-8 must be used for encoding the data messages as XML documents, i.e. first line of the XML SOAP envelope will always be:

```
<?xml version="1.0" encoding="UTF-8"?>
```

All XML elements of the fiscalization service are part of the same namespace, referenced in the Web service definition (WSDL).

The data format mask for individual items, which is listed along with their detailed description below, is a regular expression in the sense of the XML Schema, which defines the required syntax of the given item.

3.3 DATA MESSAGE STRUCTURE

All types of data messages have a common basic data format based on the SOAP 1.1 (Simple Object Access Protocol) protocol, i.e. application XML data structures are inserted into the body of the SOAP envelope. Unlike SOAP envelope header which remains empty.

Every request and response data message shall be signed with a private key belonging to the issuer or fiscalization service respectably. Exception to that rule are error messages (described in the chapter 3.7.6) which are not signed by the fiscalization service.

Digital signature is calculated only for the data message that resides inside SOAP envelope body element and is incorporated inside that data message as a envelop signature XML element.

3.4 CONTROLS

There are three types of controls:

- Mandatory controls (in real time)
- Additional controls (during back-up verification)

Mandatory controls shall be performed by CIP system in all methods in real time. In case that the control is not passed, an error message will be returned with error code defined here. The mandatory controls include the following:

Control Name	Control Description	Error code
XML format	XML format must be valid	0, 20
Check size of the data	Size must not exceed 150kB	1
XML structure validation	Check of the individual registered invoice data message's in XML against the XSD schema (*.xsd). XSD schema contains an exact definition of the data and format structure for the individual data items and a check of presence of individual items	11
Certificate validation	Check that certificate is not expired. Check that the certificate is issued by the trusting CA. Check that the identification number in the certificate corresponds to the invoice issuer identification number (tax number) in the XML message. Check that certificate is not listed in CRL.	34, 35, 36, 37, 38, 39

Electronic signature check	<p>Check that the hash of the message calculated by CIS corresponds to the hash listed in the message.</p> <p>Check that the signature corresponds to the hash of the message and to the public key of the certificate.</p>	22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34
Client time differs	Client time differs from a server's time by more than allowed time in minutes	2
Other controls	Other controls as specified in the functional specification and for control purposes of the Tax Administration	

Table 3

Additional controls are not performed at the moment of registration of the invoice but are instead postponed for later processing of the invoices. Errors detected here will be available to taxpayer over central invoice platform and to tax officials through CPCM.

3.5 REGISTER TCR

Each electronic cash device must be registered on CIS in order to receive the code which represents that electronic cash device. This code is used for identification of electronic cash device in messages which are exchanged between CIS and the electronic cash device. This registration must be done only once when the electronic cash device is installed in the business premise where it is used.

Before this, taxpayer needs to be registered in Tax Administration in active Registry of taxpayers. Taxpayer must also register the business premise (in application Central invoice platform) in which the TCR is located prior to registration of the TCR.

If this registration is done for the same internal identification of the TCR and business unit code, CIS will update only ValidTo field information with new data provided in the request message and return same TCRCode. Deregistration is possible by providing current date as value for ValidTo attribute field date field in the RegisterTCRRequest message.

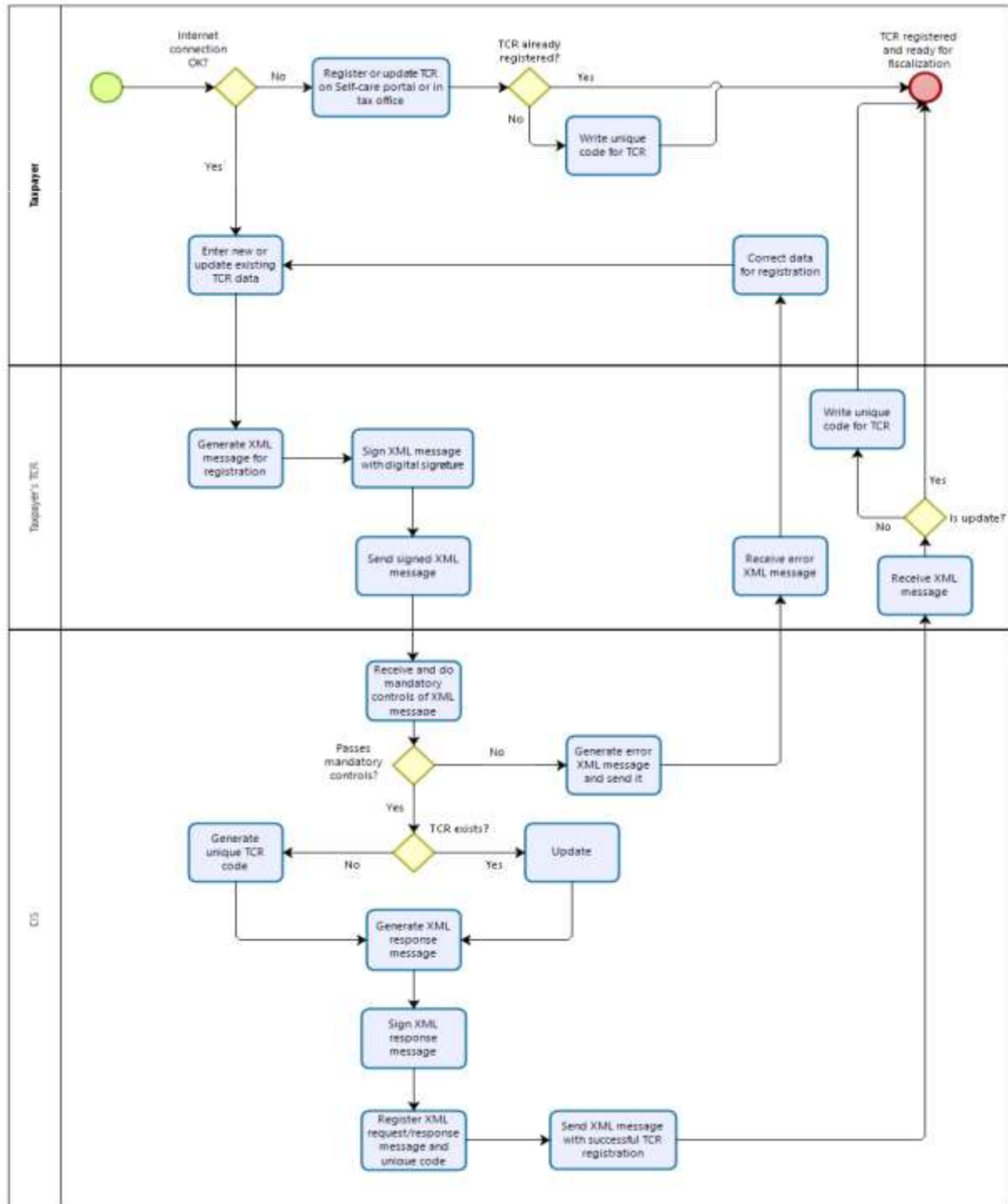


Figure 3 - Registration of taxpayer's cash register

3.5.1 REGISTER TCR REQUEST DATA MESSAGE

Name		Field type	Occurrence [Min, Max]	Description
RegisterTCRRequest		Element	[1, 1]	Root XML element representing registration of TCR.
	Id	Attribute	[1, 1]	Attribute used for signature creation and verification. Fixed value "Request".
	Version	Attribute	[1,1]	Attribute used to specify compliance with XSD schema. For this version fixed value is "3".
Header		Element	[1, 1]	XML element representing header...
	UUID	Attribute	[1, 1]	ID of the message.
	SendDateTime	Attribute	[1, 1]	Date and time of sending the message to the Tax administration.
	Source	Attribute	[0, 1]	Only for internal usage. Must not be populated by a TCR.
TCR		Element	[1, 1]	XML element representing a single TCR registration message.
	IssuerNUIIS	Attribute	[1, 1]	Taxpayer's NUIIS/NIPT.
	BusinUnitCode	Attribute	[1, 1]	Business unit (premise) code.
	TCRintID	Attribute	[1, 1]	TCR internal identification. This identification attribute can be used for old cash registers.
	SoftCode	Attribute	[0, 1]	Code of the software used by TCR.
	MaintainerCode	Attribute	[0, 1]	Code of the maintainer for the TCR software.
	ValidFrom	Attribute	[0, 1]	Date from which the TCR will be used.
	ValidTo	Attribute	[0,1]	Date until which the TCR will be used.
	Type	Attribute	[0,1]	TCR type.
Signature		Element	[1, 1]	XML element with digital signature.

Table 4

3.5.1.1 Header

Element representing the header of the request data message.

3.5.1.2 Header UUID

Element generated by the TCR. It uniquely identifies the request message sent from TCR to CIS. UUID should be constructed according to the RFC4122 version 4.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 5

3.5.1.3 Header SendDateTime

Element represents date and time of sending the request message to the CIS. Date and time should be in ISO 8601 format.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+-][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 6

3.5.1.4 Header Source

Only for internal use. Must not be populated by a TCR.

Data type	string
Length	32 characters
Example	N/A

Table 7

3.5.1.5 TCR

Element representing a single TCR registration request.

3.5.1.6 TCR IssuerNUIS

Element representing issuer's NUIS/NIPT.

Data type	string
Length	10
Pattern	[a-zA-Z]{1}[0-9]{8}[a-zA-Z]{1}
Example	K72001008V

Table 8

3.5.1.7 TCR BusinUnitCode

Code of the business unit (premise) in which the invoice is issued.

Data type	string
Length	10 characters
Pattern	[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3}
Example	ab123ab123

Table 9

3.5.1.8 TCR TCRIntID

Attribute representing the internal identification of the TCR. This identification attribute can be used for old cash registers.

Data type	string
Length	50 characters
Example	2

Table 10

3.5.1.9 TCR SoftCode

Code of the software used for invoice issuing.

Data type	string
Length	10 characters
Pattern	[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3}
Example	ab123ab123

Table 11

3.5.1.10 TCR MaintainerCode

Code of the maintainer for the TCR software.

Data type	string
Length	10 characters
Pattern	[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3}
Example	ab123ab123

Table 12

3.5.1.11 TCR ValidFrom

Element represents date from which the TCR will be used or is valid.

Data type	date
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}
Example	2019-01-24

Table 13

3.5.1.12 TCR ValidTo

Element represents date until which the TCR will be used or is valid.

Data type	date
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}
Example	2019-01-24

Table 14

3.5.1.13 TCR Type

This attribute shows the type of TCR.

Data type	string
Values	Enumeration, described in the table below.
Example	REGULAR

Table 15

Following table shows the list of allowed values inside Type attribute.

Value	Description
REGULAR	Regular TCR.
VENDING	Self-vending machine.

Table 16

3.5.1.14 Signature

XML element stores enveloped digital signature described in the chapter 5.3.1.

3.5.2 REGISTER TCR RESPONSE DATA MESSAGE

Name	Field type	Occurrence [Min, Max]	Description
RegisterTCRResponse	Element	[1, 1]	Root XML element representing registration of TCR.
Id	Attribute	[1, 1]	Attribute used for signature creation and verification. Fixed value "Response".
Version	Attribute	[1,1]	Attribute used to specify compliance with XSD schema. For this version fixed value is "3".
Header	Element	[1, 1]	XML element representing header...
UUID	Attribute	[1, 1]	ID of the message.
RequestUUID	Attribute	[1, 1]	UUID of the request message for which this response message was sent.
SendDateTime	Attribute	[1, 1]	Date and time of sending the message to the Tax administration.
TCRCode	Element	[1, 1]	Code of the TCR generated by the CIS.
Signature	Element	[1, 1]	XML element with signature.

Table 17

3.5.2.1 Header

Element representing the header of the response data message.

3.5.2.1.1 Header UUID

Element generated by the CIS. It uniquely identifies the response message sent from CIS to TCR. UUID should be constructed according to the RFC4122 version 4.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 18

3.5.2.1.2 Header RequestUUID

Element generated by the TCR and referenced by the CIS. It uniquely identifies the request message for which the response message was sent to the TCR. UUID should be constructed according to the RFC4122 version 4.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 19

3.5.2.1.3 Header SendDateTime

Element represents date and time of sending the response message to the TCR. Date and time should be in ISO 8601 format.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+-][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 20

3.5.2.2 TCRCode

Code of the TCR device, generated by the CIS.

Data type	string
Length	10 characters
Pattern	[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3}
Example	ab123ab123

Table 21

3.5.2.3 Signature

XML element stores enveloped digital signature described in the chapter 5.3.1.

3.5.3 MANDATORY CONTROLS

Mandatory controls shall be performed by CIP system in process of registering the TCR. In case that the control is not passed, an error message will be returned with an error code.

Upon identifying a critical error, CIS will return an error data message containing the error's numeric code and its text description (see chapter 3.8.6). When errors which the system can interpret as a cyber-attack are identified, the system does not send any response to the client (the taxpayer's TCR).

The mandatory controls include all the controls from chapter 3.4 and the following:

Control Name	Control description (Error if)	Error code
Valid from in the past	TCR.ValidFrom cannot be in the past.	45
Valid to in the past	TCR.ValidTo cannot be in the past.	46
Valid to before valid from	TCR.ValidTo cannot be before TCR.ValidFrom.	47
Active TCR update	Active TCR cannot be modified.	48
Deactivated TCR update	Deactivated TCR cannot be modified.	57
Registered taxpayer	TCR.IssuerNUIS does not reference active taxpayer in the Registry of taxpayers.	52
Registered business unit	TCR.BusinUnitCode does not reference active business unit (premise) of the taxpayer.	41
Registered software	TCR.SoftCode does not references active software.	42
Registered maintainer	TCR.MaintainerCode does not references active maintainer.	43
New registration invalid	TCR.SoftCode, TCR.MaintainerCode or TCR.Type does not exist, and it is first TCR registration.	11

Table 22

3.5.4 ERROR MESSAGE

Error message is defined in chapter 3.8.6

3.5.5 EXAMPLE XML

3.5.5.1 Request XML

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <RegisterTCRRequest xmlns="https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema"
      xmlns:ns2="http://www.w3.org/2000/09/xmldsig#" Id="Request" Version="3">
      <Header SendDateTime="2019-12-02T10:57:01+01:00" UUID="78b37523-3677-416a-8bc0-e0dd77296fc7"/>
      <TCR BusinUnitCode="bb123bb123" IssuerNUIIS="L91806031N" MaintainerCode="mm123mm123" SoftCode="ss123ss123"
        TCRIntID="1" ValidFrom="2019-12-05" Type="REGULAR"/>
      <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
        <SignedInfo>
          <CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
          <SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256" />
          <Reference URI="#Request">
            <Transforms>
              <Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature" />
              <Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
            </Transforms>
            <DigestMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#sha256" />
            <DigestValue>0ilvSabbyg8.....GzADJ0D08=</DigestValue>
          </Reference>
        </SignedInfo>
        <SignatureValue>tpGg48z.....0HmXIVOA==</SignatureValue>
        <KeyInfo>
          <X509Data>
            <X509Certificate>MIIFYDCCB.....PiFz0U1KJAanmqN3</X509Certificate>
          </X509Data>
        </KeyInfo>
      </Signature>
    </RegisterTCRRequest>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

3.5.5.2 Response XML

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <ns2:RegisterTCRRResponse Id="Response" Version="3"
      xmlns:ns2="https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema" xmlns:ns3="http://www.w3.org/2000/09/xmldsig#"
      UUID="12839912-75b6-4cd4-ba2d-fca3e6395226"/>
    <ns2:TCRCode>vk822xf503</ns2:TCRCode>
    <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
      <SignedInfo>
        <CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
        <SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256" />
        <Reference URI="#Response">
          <Transforms>
            <Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature" />
            <Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
          </Transforms>
          <DigestMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#sha256" />
          <DigestValue>p+TSatU9.....+yD8ff87U=</DigestValue>
        </Reference>
      </SignedInfo>
      <SignatureValue>kFXWTPybi.....W6kKA3ojg==</SignatureValue>
      <KeyInfo>
        <X509Data>
          <X509Certificate>MIIFRjCCBC.....gpNT2r23YQ==</X509Certificate>
        </X509Data>
      </KeyInfo>
    </Signature>
  </ns2:RegisterTCRRResponse>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

3.6 REGISTER CASH DEPOSIT

Every day before registering the first invoice of the day on CIS, each TCR for handling cash transactions must register the initial amount of cash deposit (Operation INITIAL). Initial registration is allowed only once per day. If needed TCR can correct initial deposit by registering cash amount (Operation WITHDRAW or DEPOSIT).

During the day, the operator can put or take cash from the TCR and each of these actions must be registered (Operation WITHDRAW or DEPOSIT).

In special cases defined by the Law (when there is failure of internet connection or if the taxpayer operates in the area without internet connection), information about opening deposit or withdrawal must be stored in TCR memory. If there is failure of TCR, data of the deposit/withdrawal is written in the bound invoice book and submitted to the Tax Administration later together with all invoices that are going to be fiscalized through that process.

The open cash deposit can be 0.00.

Cash balance registration is not required in the business premises that operates only (i.e. issues only) with non-cash invoices or in case of web-shop.

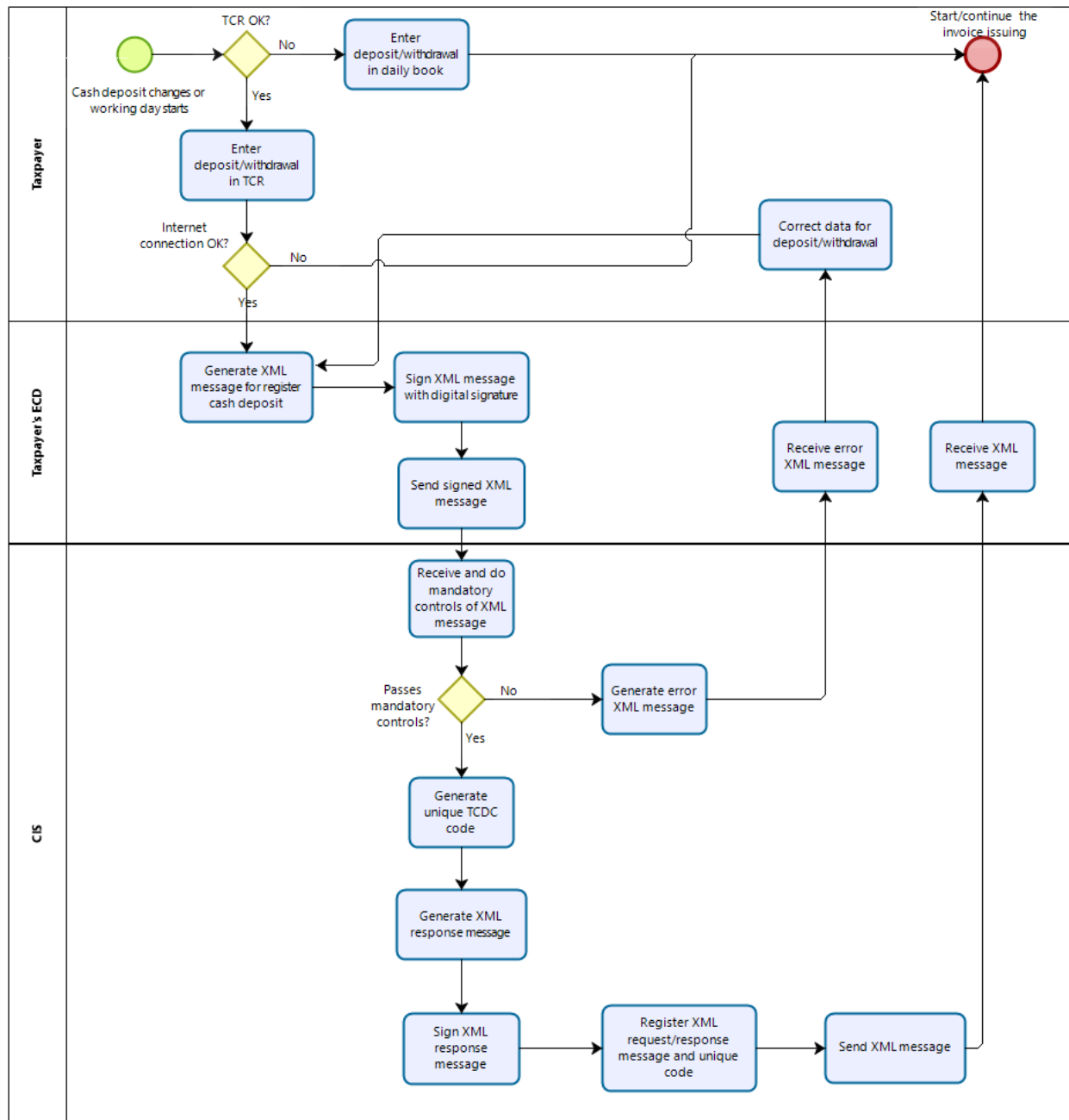


Figure 4 – Registration of the cash deposit

3.6.1 REGISTER CASH DEPOSIT REQUEST DATA MESSAGE

Name	Field type	Occurrence [Min, Max]	Description
RegisterCashDepositRequest	Element	[1, 1]	Root XML element representing registration of TCR first deposit.
Id	Attribute	[1, 1]	Attribute used for signature creation and verification. Fixed value "Request".
Version	Attribute	[1, 1]	Attribute used to specify compliance with XSD schema. For this version fixed value is "3".
Header	Element	[1, 1]	XML element representing header of the message.
UUID	Attribute	[1, 1]	UUID generated by a TCR for every data message sent to the CIS.
SendDateTime	Attribute	[1, 1]	Date and time of sending the message from a TCR to the CIS.
SubseqDelivType	Attribute	[0, 1]	Type of subsequent delivery if message is delivered after cash deposit activity occurred.
Source	Attribute	[0, 1]	Only for internal usage. Must not be populated by a TCR.
CashDeposit	Element	[1, 1]	XML element representing a single cash deposit request.
ChangeDateTime	Attribute	[1, 1]	Date and time when the cash deposit was changed.
Operation	Attribute	[1, 1]	Cash deposit operation made at the register.
CashAmt	Attribute	[1, 1]	Amount of the cash transferred to or from the TCR.
TCRCode	Attribute	[1, 1]	Code of the TCR for which the cash deposit is registered.
IssuerNUI5	Attribute	[1, 1]	Taxpayer's NUIS/NIPT.
Signature	Element	[1, 1]	XML element with signature.

Table 23

3.6.1.1 Header

Element representing the header of the request data message.

3.6.1.2 Header UUID

Element generated by the TCR. It uniquely identifies the request message sent from TCR to CIS. UUID should be constructed according to the RFC4122 version 4.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 24

3.6.1.3 Header SendDateTime

Element represents date and time of sending the request message to the CIS. Date and time should be in ISO 8601 format.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+-][0-9]{2}:[0-9]{2})? Z
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 25

3.6.1.4 Header SubseqDelivType

This element shows the type of subsequent delivery if message is delivered after cash deposit issuance.

Data type	string
Values	Enumeration, described in the table below.
Example	NOINTERNET

Table 26

Following table shows the list of allowed values inside SubseqDelivType attribute.

Value	Description
NOINTERNET	When TCR operates in the area where there is no Internet available.
BOUNDBOOK	When TCR is not working and message cannot be created with TCR.
SERVICE	When there is an issue with the fiscalization service that blocks fiscalization.
TECHNICALERROR	When there is a temporary technical error at TCR side that prevents successful fiscalization.

Table 27

3.6.1.5 Header Source

Only for internal use. Must not be populated by a TCR.

Data type	string
Length	32 characters
Example	N/A

Table 28

3.6.1.6 CashDeposit

Element representing a single cash deposit registration.

3.6.1.7 CashDeposit ChangeDateTime

Element representing date and time when the deposit of cash was changed in the cash register.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+-][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 29

3.6.1.8 CashDeposit Operation

This is an XML element that represents the operation made at the cash register.

Data type	string
Constraint	Enumeration, described in the table below.
Example	INITIAL

Table 30

Enumeration values for the operation are listed in the table below.

Value	Description
INITIAL	Initial balance in the TCR.
WITHDRAW	Amount of cash withdrawn from the TCR.
DEPOSIT	Amount of cash deposited to the TCR.

Table 31

3.6.1.9 CashDeposit CashAmt

Element representing the amount of cash found in the cash register after the operation.

Data type	decimal
Pattern	([1-9][0-9]* 0)\.[0-9]{2} 0
Example	212.12

Table 32

3.6.1.10 CashDeposit TCRCode

Code representing the unique number of the TCR in question.

Data type	string
Length	10 characters
Pattern	[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3}
Example	ab123ab123

Table 33

3.6.1.11 CashDeposit IssuerNUIIS

Element representing issuer's NUIS/NIPT (tax number).

Data type	string
Length	10
Pattern	[a-zA-Z]{1}[0-9]{8}[a-zA-Z]{1}
Example	K72001008V

Table 34

3.6.1.12 Signature

XML element stores enveloped digital signature described in the chapter 5.3.1.

3.6.2 REGISTER CASH DEPOSIT RESPONSE DATA MESSAGE

Name	Field type	Occurrence [Min, Max]	Description
RegisterCashDepositResponse	Element	[1, 1]	Root XML element representing registration of cash deposit.
Id	Attribute	[1, 1]	Attribute used for signature creation and verification. Fixed value "Response".
Version	Attribute	[1,1]	Attribute used to specify compliance with XSD schema. For this version fixed value is "3".
Header	Element	[1, 1]	XML element representing header...
UUID	Attribute	[1, 1]	ID of the message.
RequestUUID	Attribute	[1, 1]	UUID of the request message for which this response message was sent.
SendDateTime	Attribute	[1, 1]	Date and time of sending the message to the Tax Administration.
FCDC	Element	[1, 1]	Fiscalization cash deposit code generated by the CIS.
Signature	Element	[1, 1]	XML element with signature.

Table 35

3.6.2.1 Header

Element representing the header of the response data message.

3.6.2.2 Header UUID

Element generated by the CIS. It uniquely identifies the response message sent from CIS to TCR. UUID should be constructed according to the RFC4122 version 4.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 36

3.6.2.3 Header RequestUUID

Element generated by the TCR and referenced by the CIS. It uniquely identifies the request message for which response message was sent to the TCR. UUID should be constructed according to the RFC4122 version 4.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 37

3.6.2.4 Header SendDateTime

Element represents date and time of sending the response message to the TCR. Date and time should be in ISO 8601 format.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+-][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 38

3.6.2.5 FCDC

Fiscalization cash deposit code. Unique code generated by the CIS for every successful cash deposit registration.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 39

3.6.2.6 Signature

XML element stores enveloped digital signature described in the chapter 5.3.1.

3.6.3 MANDATORY CONTROLS

Mandatory controls shall be performed by CIP system in process of registering the cash deposit of TCR. In case that the control is not passed, an error message will be returned with an error code.

Upon identifying a critical error, CIS will return an error data message containing the error's numeric code and its text description (see chapter 3.8.6). When errors which the system can interpret as a cyber-attack are identified, the system does not send any response to the client (the taxpayer's TCR).

The mandatory controls include all the controls from chapter 3.4 and the following:

Control Name	Control Description (Error if)	Error code
Check WITHDRAW or DEPOSIT amount	CashDeposit.CashAmt is zero and CashDeposit.Operation equals WITHDRAW or DEPOSIT.	51
Registered taxpayer	CashDeposit.IssuerNUIS does not reference active taxpayer in the Registry of taxpayers.	52
Registered TCR	CashDeposit.TCRCCode does not reference registered or active TCR or the TCR doesn't belongs to the referenced issuer.	53
INITIAL deposit already registered	If cash deposit with CashDeposit.Operation INITIAL is already registered for current day	56
ChangeDateTime invalid	<p>CashDeposit.ChangeDateTime is in the future.</p> <p>CashDeposit.ChangeDatetime is not equal to the Header.SendDateTime and Header.SubseqDelivType does not exist.</p> <p>CashDeposit.ChangeDatetime more than 2 days in the past from now and Header.SubseqDelivType equals to SERVICE or TECHNICALERROR.</p> <p>CashDepositChangeDateTime more than 11 days in the past from now and Header.SubseqDelivType equals BOUNDBOOK.</p> <p>CashDepositChangeDateTime is not in the current or previous month or is in the previous month but the send date is not less or equal to 10th of the current month and Header.SubseqDelivType equals NOINTERNET.</p>	11

Table 40

3.6.4 ERROR MESSAGE

Error message is defined in chapter 3.8.6.

3.6.5 EXAMPLE XML

3.6.5.1 Request XML

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <RegisterCashDepositRequest xmlns="https://efiskalizimi.tatime.gov.al/FiscalizationService/schema"
      xmlns:ns2="http://www.w3.org/2000/09/xmldsig#" Id="Request" Version="3">
      <Header SendDateTime="2019-12-05T14:35:00+01:00" UUID="3389b9c4-bb24-4673-b952-456e451ed3c3"/>
      <CashDeposit CashAmt="2000.00" ChangeDateTime="2019-12-05T14:35:00+01:00" IssuerNUIS="L91806031N" Operation="INITIAL"
        TCRCCode="cc123cc123"/>
      <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
        <SignedInfo>
          <CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
          <SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256" />
          <Reference URI="#Request">
            <Transforms>
              <Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature" />
              <Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
            </Transforms>
            <DigestMethod Algorithm="http://www.w3.org/2001/04/xmldsig#sha256" />
            <DigestValue>PTmGp/uQH.....LR+4IH2/hODo=</DigestValue>
          </Reference>
        </SignedInfo>
        <SignatureValue>PDV1uTMr5.....SspzFpjYkEA==</SignatureValue>
      </Signature>
    </RegisterCashDepositRequest>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

```

        <X509Data>
          <X509Certificate>MIIFYDCCB.....Pifz0U1KJAanmqN3</X509Certificate>
        </X509Data>
      </KeyInfo>
    </Signature>
  </RegisterCashDepositRequest>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

3.6.5.2 Response XML

```

<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <ns2:RegisterCashDepositResponse Id="Response" Version="3"
      xmlns:ns2="https://efiskalizimi.tatime.gov.al/FiscalizationService/schema" xmlns:ns3="http://www.w3.org/2000/09/xmldsig#">
      <ns2:Header RequestUUID="5b685bba-fe1e-405c-ac8c-2243502dc9db" SendDateTime="2019-11-27T09:44:14+01:00"
        UUID="ed3cbe5c-08ad-44e2-a6e1-a811e3c80137"/>
      <ns2:FCBC>c8a197f1-b7dc-4e82-8729-4a506aef9b9</ns2:FCBC>
      <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
        <SignedInfo>
          <CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
          <SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256" />
          <Reference URI="#Response">
            <Transforms>
              <Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature" />
              <Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
            </Transforms>
            <DigestMethod Algorithm="http://www.w3.org/2001/04/xmldsig#sha256" />
            <DigestValue>giebs7Pyu.....rs+xz0iS3f0=</DigestValue>
          </Reference>
        </SignedInfo>
        <SignatureValue>BwiADbuZFaa.....fd2Uo3LEiClw==</SignatureValue>
      </KeyInfo>
      <X509Data>
        <X509Certificate>MIIFRjCCBC6g.....JfgpNT2r23YQ==</X509Certificate>
      </X509Data>
    </KeyInfo>
  </Signature>
</ns2:RegisterCashDepositResponse>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

3.7 REGISTER INVOICE

Issuer of the invoice is obliged to deliver information on each invoice he issues. Information has to be delivered at the moment of issuing. Exceptionally, it can be delivered afterwards (as stipulated in the Law).

Data exchange process starts at the moment when the issuer is about to issue an invoice to the customer. The TCR prepares invoice data and based on that data it creates IIC. After that it prepares XML invoice request message and signs it electronically by its certificate private key (using a certificate that was issued to issuer by CIS with purpose being the implementation of fiscalization). After that the 1-way TLS communication is started and once successful it calls the service.

Central information system receives and processes request message. If the request is successfully processed, central information system prepares XML message that contains FIC, which is unique for every invoice, signs it electronically with its certificate, and sends it back to the TCR.

TCR receives answer message and checks its electronic signature. After that, cashier (operator) issues the invoice and hands it to the buyer.

Corrective invoice is a special type of invoice which contains a reference to the original invoice and is issued in order to change some data in the original invoice, e.g. some items from the original invoice should be removed because they are returned from the buyer to the seller.

If there were errors during the operation (invalid XML, invalid certificate or similar), central information system shows the error as XML message. If that is the case, there is no FIC so issuer will issue the invoice without FIC. The invoice issuing process must not be halted because of the error, but the issuer is obliged to correct the error and deliver it after he receives the correct message.

In all situations when issuer does not get FIC for invoice he issued (loss of Internet connection, computer breakdown, central information system unavailability or similar), he is obliged to make another invoice request. Invoice is found to be properly sent and reported to the CIS once issuer gets FIC for it.

In cases when there are invoices without FIC, those should be sent again later (and in timeframe defined in laws), as invoices processed at the moment have advantage over invoices issued prior. Invoices without FIC should be delivered when traffic load is smaller or immediately and automatically when Internet connection becomes available again.

When the taxpayer is operating in the area without internet connection, he can export invoice registration request into special file format which can be then delivered through the Central invoice platform with bulk upload of invoice or brought to the Tax Administration office.

Maximum time-out for machine to wait for the answer that contains FIC is set by issuer himself. Issuer needs to check the Internet connection quality and time needed for issuing one receipt so that will not affect his business. When calculating maximum time-out, issuer should count in additional two seconds (time needed for request to come in and get out of process).

Invoice registration can be verified by online application. Each invoice contains a QR-code which contains a link to the web page which displays information about the invoice, if it was successfully registered. Details are explained in subchapter 3.7.6.

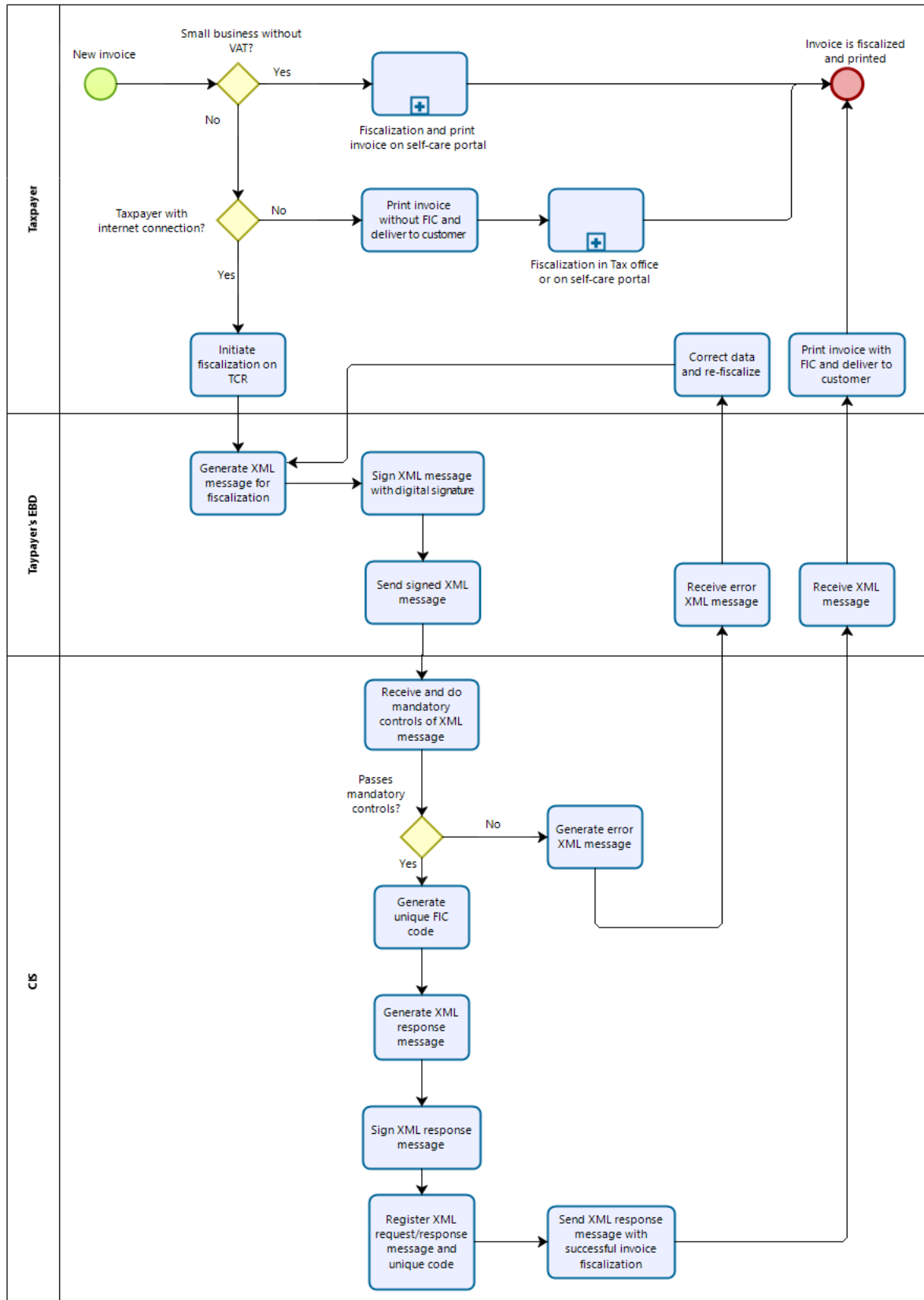


Figure 5 – Fiscalization of invoices

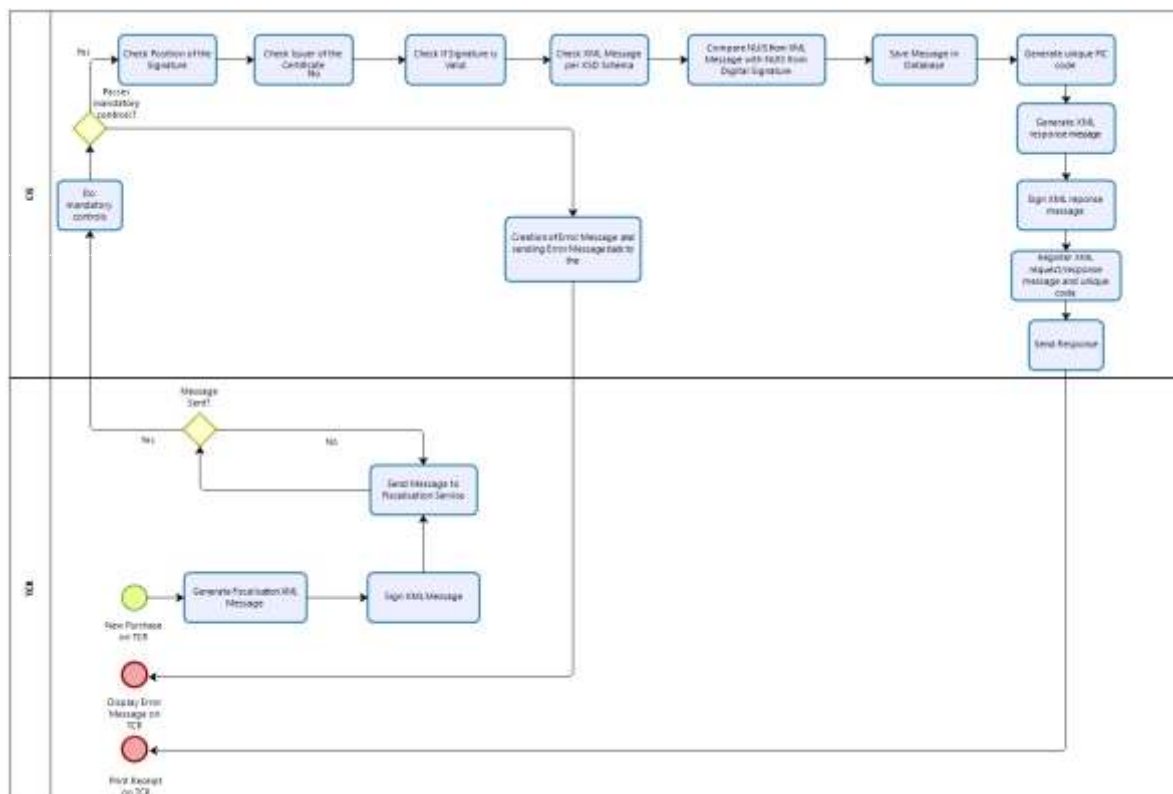


Figure 6 - XML validations

CIS processes the registration of the invoice in the following way:

- TLS communication is initiated between the invoice issuer and CIS
 - In case that certificate provided by the invoice issuer is invalid, communication protocol fails
- CIS checks the size of the message
 - If the message is larger than allowed, an error message is sent in the response and no further processing is done.
- Further controls are performed. For each passed control, process continues to the next control. If the control fails, no more controls are performed, and error message is prepared. Following controls are performed:
 - SOAP message is a valid XML document
 - SOAP message is structured according to the defined schema
 - Certificate in the signature of the message is checked
 - Signature of the message is checked
 - IIC is verified
 - Date and time written in the message is checked
 - Is issuer in the VAT register
- If one of the controls failed, an error message will be sent in the reply to the request message with the error code related to the nature of the error.
- If all of the controls have passed successfully, register invoice response message will be sent.
 - FIC code is generated.
 - Response message is prepared with FIC included.
 - Response message is signed, and signature is put into the message.
- Invoice data is inserted into the database.
 - Data includes request SOAP message, response SOAP message (or error message).
- Prepared response message is sent back to the taxpayer.

3.7.1 REGISTER INVOICE REQUEST DATA MESSAGE

This is the request message sent by the issuer of the invoice to CIS.

Name		Field type	Occurrence [Min, Max]	Description
RegisterInvoiceRequest		Root	[1, 1]	Root XML element representing register invoice message.
	Id	Attribute	[1, 1]	Attribute used for signature creation and verification. Fixed value "Request".
	Version	Attribute	[1,1]	Attribute used to specify compliance with XSD schema. For this version fixed value is "3".
	Header	Element	[1, 1]	XML element representing header of the invoice containing data about the message (request) sent.
	UUID	Attribute	[1, 1]	UUID generated by a TCR for every register sale data message send to the CIS.
	SendDateTime	Attribute	[1, 1]	Date and time of sending the register invoice data message from a TCR to the CIS.
	SubseqDelivType	Attribute	[0, 1]	Type of subsequent delivery if message is delivered after invoice issuance.
	Source	Attribute	[0, 1]	Only for internal usage. Must not be populated by a TCR.
	Invoice	Element	[1, 1]	XML element representing a single invoice.
	TypeOfInv	Attribute	[1, 1]	Type of the invoice (cash, non-cash).
	TypeOfSelfiss	Attribute	[0, 1]	Entered only if invoice is self-issued.
	IsSimplifiedInv	Attribute	[1, 1]	Is invoice simplified
	IssueDateTime	Attribute	[1, 1]	Date and time when the invoice is created and issued at TCR.
	InvNum	Attribute	[1, 1]	Invoice number composed of invoice ordinal number, year of invoice issuance and code of TCR that issued invoice.
	InvOrdNum	Attribute	[1, 1]	Invoice ordinal number.
	TCRCode	Attribute	[0, 1]	Code of the device that issued the invoice.
	IsIssuerInVAT	Attribute	[1, 1]	Issuer is in VAT register
	TaxFreeAmt	Attribute	[0, 1]	The total amount of goods and services delivered when VAT is not charged
	MarkUpAmt	Attribute	[0, 1]	Amount related to special procedure for margin scheme
	GoodsExAmt	Attribute	[0, 1]	Amount of goods for export from the Republic of Albania.
	TotPriceWoVAT	Attribute	[1, 1]	Total price of the invoice excluding VAT.
	TotVATAmt	Attribute	[0, 1]	Total VAT amount of the invoice.
	TotPrice	Attribute	[1, 1]	Total price of all items including taxes and discounts.
	OperatorCode	Attribute	[1, 1]	Reference to the operator code, who is operating on TCR and issues invoices.
	BusinUnitCode	Attribute	[1, 1]	Business unit (premise) code.
	SoftCode	Attribute	[1, 1]	Software code.
	ImpCustDecNum	Attribute	[0, 1]	Import customs declaration number. Only for internal usage. Must not be populated by a TCR.
	IIC	Attribute	[1, 1]	Issuer's invoice code calculated as MDS hash from IICSignature attribute.
	IICSignature	Attribute	[1, 1]	Signed issuer's invoice code concatenated parameters.
	IsReverseCharge	Attribute	[1, 1]	If true, the buyer is obliged to pay the VAT.
	PayDeadline	Attribute	[0, 1]	Last day for payment.
	IsInvoice	Attribute	[1, 1]	If invoice is created for einvoice.
	CorrectiveInv	Element	[0, 1]	XML element groups data for an original invoice that will be corrected with current invoice.
	IICRef	Attribute	[1, 1]	IIC reference on the original invoice.
	IssueDateTime	Attribute	[1, 1]	Date and time the original invoice is created and issued at TCR.
	Type	Attribute	[1, 1]	Type of the corrective invoice.
	BadDebtInv	Element	[0, 1]	XML element groups data for an original invoice that will be declared bad debt invoice, as uncollectible.
	IICRef	Attribute	[1, 1]	IIC reference on the original invoice.
	IssueDateTime	Attribute	[1, 1]	Date and time the original invoice is created and issued at TCR.

		SumInvIICRefs	Element	[0, 1]	XML element that contains list of IIC-s to which this invoice referred to, e.g. if this is a summary invoice it shall contain a reference to each individual invoice issued and fiscalized before and included in this summary invoice.
		SumInvIICRef	Element	[1, 1000]	XML element that contains one IIC reference, e.g. reference of the invoice that is part of the summary invoice.
		IIC	Attribute	[1, 1]	IIC of the invoice that is referenced in the summary invoice.
		IssueDateTime	Attribute	[1, 1]	Date and time the invoice referenced by the summary invoice is created and issued at TCR.
		SupplyDateOrPeriod	Element	[0, 1]	XML element representing supply date or period of supply, if it is different from the date when the invoice was issued.
		Start	Attribute	[1, 1]	Start day of the supply.
		End	Attribute	[1, 1]	End day of the supply.
		PayMethods	Element	[1, 1]	XML element representing list of payment methods.
		PayMethod	Element	[1, 10]	XML element representing one payment method.
		Type	Attribute	[1, 1]	Type of the payment method.
		Amt	Attribute	[1, 1]	Amount paid by payment method in the ALL.
		CompCard	Attribute	[0, 1]	Company card number if the payment method is company card.
		Vouchers	Element	[0, 1]	XML element that contains list of voucher numbers if the payment method is voucher.
		Voucher	Element	[1, 20]	XML element that contains one voucher number.
		Num	Attribute	[1, 1]	Voucher serial number
		Currency	Element	[0, 1]	XML element representing currency in which the amount on the invoice should be paid, if different from ALL.
		Code	Attribute	[1, 1]	Currency code in which the amount on the invoice should be paid, if different from ALL.
		ExRate	Attribute	[1, 1]	Exchange rate applied to calculate the equivalent amount of foreign currency for the total amount expressed in ALL. Exchange rate express equivalent amount of ALL for 1 unit of foreign currency.
		IsBuying	Attribute	[0, 1]	True if exchange transaction is buying of the foreign currency. False if exchange transaction is selling of the foreign currency.
		Seller	Element	[1, 1]	XML element representing seller's data.
		IDType	Attribute	[1, 1]	Seller's identification number type.
		IDNum	Attribute	[1, 1]	Seller's identification number.
		Name	Attribute	[1, 1]	Seller's name.
		Address	Attribute	[0, 1]	Seller's address.
		Town	Attribute	[0, 1]	Seller's town.
		Country	Attribute	[0, 1]	Seller's country.
		Buyer	Element	[0, 1]	XML element representing buyer's data.
		IDType	Attribute	[0, 1]	Buyer's identification number type.
		IDNum	Attribute	[0, 1]	Buyer's identification number.
		Name	Attribute	[0, 1]	Buyer's name.
		Address	Attribute	[0, 1]	Buyer's address.
		Town	Attribute	[0, 1]	Buyer's town.
		Country	Attribute	[0, 1]	Buyer's country.
		Items	Element	[1, 1]	XML element representing list of invoice items.
		I (Item)	Element	[1, 1000]	XML element representing one item.
		N (Name)	Attribute	[1, 1]	Name of the item (goods or services).
		C (Code)	Attribute	[0, 1]	Code of the item from the barcode or similar representation.
		U (Unit of measure)	Attribute	[1, 1]	What is the item's unit of measure (piece, weight measure, length measure, etc.)
		Q (Quantity)	Attribute	[1, 1]	Amount or number (quantity) of items. Negative values allowed when CorrectiveInv or BadDebtInv exist.
		UPB (Unit price without VAT)	Attribute	[1, 1]	Unit price before Value added tax is applied
		UPA (Unit Price with VAT)	Attribute	[1, 1]	Unit price after Value added tax is applied
		R (Rebate)	Attribute	[0, 1]	Percentage of the rebate.
		RR (Rebate Reducing base price)	Attribute	[0, 1]	Is rebate reducing tax base amount?

			PB (Price Before VAT)	Attribute	[1, 1]	Total price of goods and services before the tax Negative values allowed when CorrectiveInv or BadDebtInv exist.
			VR (VAT Rate)	Attribute	[0, 1]	Rate of value added tax. Must not exist if IsIssuerInVAT equals false and is not reverse charge or self-invoice. Mandatory if IsReverseCharge equals true.
			EX (Exempt from VAT)	Attribute	[0, 1]	Exempt from VAT.
			VA (VAT Amount)	Attribute	[0, 1]	Amount of value added tax for goods and services. Must not exist if IsIssuerInVAT equals false and is not reverse charge or self-invoice. Mandatory if IsReverseCharge equals true. Negative values allowed when CorrectiveInv or BadDebtInv exist.
			IN (is Investment)	Attribute	[0, 1]	If true, the item is investment for the buyer. Mandatory only for importation of goods.
			PA (Price After applying VAT)	Attribute	[1, 1]	Total price of goods after the tax and applying discounts Negative values allowed when CorrectiveInv or BadDebtInv exist.
			VS (Vouchers sold)	Element	[0, 1]	XML element representing vouchers sold
			VD (Vouchers sold data)	Element	[1, 1]	XML element representing data of vouchers sold
			D (Date)	Attribute	[1, 1]	Expiration date of the voucher.
			N (Nominal value)	Attribute	[1, 1]	Nominal voucher value.
			VN (Voucher sold numbers)	Element	[1, 1]	XML element representing serial numbers of voucher sold.
			V (Voucher)	Element	[1, 1000]	XML element representing single voucher serial number.
			Num (Number)	Attribute	[1, 1]	Voucher serial number.
			SameTaxes	Element	[0, 1]	XML element representing list of the aggregated items that go under same tax rate/exemption.
			SameTax	Element	[1, 20]	XML element representing one same tax item.
			NumOfItems	Attribute	[1, 1]	Number of items.
			PriceBefVAT	Attribute	[1, 1]	Price before VAT.
			VATRate	Attribute	[0, 1]	VAT rate.
			ExemptFromVAT	Attribute	[0, 1]	Exempt from VAT.
			VATAmt	Attribute	[0, 1]	VAT amount.
			ConsTaxes	Element	[0, 1]	XML element representing list of special, consumption taxes.
			ConsTax	Element	[1, 20]	XML element representing one cons tax item.
			NumOfItems	Attribute	[1, 1]	Number of items under consumption tax.
			PriceBefConsTax	Attribute	[1, 1]	Price before adding consumption tax.
			ConsTaxRate	Attribute	[1, 1]	Rate of the consumption tax.
			ConsTaxAmt	Attribute	[1, 1]	Amount of consumption tax.
			Fees	Element	[0, 1]	XML element representing list of fees.
			Fee	Element	[1, 20]	XML element representing one fee.
			Type	Attribute	[1, 1]	Type of the fee.
			Amt	Attribute	[1, 1]	Amount of the fee.
			Signature	Element	[1, 1]	XML element representing signature for the invoice.

Table 41

3.7.1.1 Header

XML element representing header of the request data message.

3.7.1.2 Header UUID

Element generated by the TCR. It uniquely identifies the request message sent from TCR to CIS. UUID should be constructed according to the RFC4122 version 4.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}

Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66
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3.7.1.3 Header SendDateTime

Element represents date and time of sending the request message to the CIS. Date and time should be in ISO 8601 format.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 42

3.7.1.4 Header SubseqDelivType

This element shows the type of subsequent delivery if message is delivered after invoice issuance.

Data type	string
Values	Enumeration, described in the table below.
Example	NOINTERNET

Table 43

Following table shows the list of allowed values inside SubseqDelivType attribute.

Value	Description
NOINTERNET	When TCR operates in the area where there is no Internet available. Invoice is issued with IIC and without FIC. IIC in the message with this type must corresponds to the IIC issued to the customer.
BOUNDBOOK	When TCR is not working and message cannot be created with TCR. Invoice is issued without IIC and FIC from the bound invoice book.
SERVICE	When there is an issue with the fiscalization service that blocks fiscalization. Invoice is issued with IIC and without FIC. IIC in the message with this type must corresponds to the IIC issued to the customer.
TECHNICALERROR	When there is a temporary technical error at TCR side that prevents successful fiscalization. Invoice is issued with IIC and without FIC. IIC in the message with this type must corresponds to the IIC issued to the customer.

Table 44

3.7.1.5 Header Source

Only for internal use. Must not be populated by a TCR.

Data type	string
Length	32 characters
Example	N/A

Table 45

3.7.1.6 Invoice

XML element representing a single invoice.

3.7.1.7 Invoice TypeOfInv

Type of the item represents the type of invoice item, e.g. regular sale or a returned item.

Data type	string
Values	Enumeration, described in the table below.
Example	CASH

Table 46

Following table shows the list of allowed values inside TypeOfInv attribute.

Value	Description
CASH	Cash
NONCASH	Non-cash

Table 47

3.7.1.8 Invoice TypeOfSelfIss

This element shows the type of self-issuing.

Data type	string
Values	Enumeration, described in the table below.
Example	ABROAD

Table 48

Following table shows the list of allowed values inside TypeOfSelfIss attribute.

Value	Description
AGREEMENT	The previous agreement between the parties.
DOMESTIC	Purchase from domestic farmers.
ABROAD	Purchase of services from abroad.
SELF	Self-consumption.
OTHER	Other

Table 49

3.7.1.9 Invoice IsSimplifiedInv

Is invoice simplified.

Data type	boolean
Values	true, false
Example	true

Table 50

3.7.1.10 Invoice IssueDateTime

Time and date when the invoice is created and issued at TCR.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+-][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 51

3.7.1.11 Invoice InvNum

Invoice number composed of invoice ordinal number, year of invoice issuance and code of the TCR that issued invoice if the invoice is not equal to NONCASH. Invoice ordinal number is a sequence that is assigned to each new invoice so that the invoices can be counted. The sequence is reset at the beginning of each year.

Data type	string
-----------	--------

Pattern	[1-9]{1}[0-9]{0,14}\/[0-9]{4}\[/[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3}]?
Example	TypeOfInv is not equal to NONCASH: 9934/2019/ab123ab123 TypeOfInv is equal to NONCASH: 9934/2019

Table 52

3.7.1.12 Invoice InvOrdNum

Invoice ordinal number. Invoice ordinal number is a sequence that is assigned to each new invoice so that the invoices can be counted. The sequence is reset at the beginning of each year.

Data type	integer
Constraint	Positive
Example	2

Table 53

3.7.1.13 Invoice TCRCCode

Code of the device that issued the invoice.

Data type	string
Pattern	[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3}
Example	ab123ab123

Table 54

3.7.1.14 Invoice IsIssuerInVAT

Is taxpayer in the VAT register.

Data type	boolean
Values	true, false
Example	true

Table 55

3.7.1.15 Invoice TaxFreeAmt

Invoice amount that is exempted from VAT, either because the taxpayer is not in the VAT register or some other exemption applied that is different from the one in other fields of this XML message.

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	17.24

Table 56

3.7.1.16 Invoice MarkupAmt

The total amount pertaining to the special margin scheme procedure in the invoice in decimal form (the taxable amount). The margin for used goods, works of art, collectibles or antiques.

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	23.10

Table 57

3.7.1.17 Invoice GoodsExAmt

Total price of delivery of exported goods. There is no VAT on the invoice.

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	246.00

Table 58

3.7.1.18 Invoice TotPriceWoVAT

Total amount of the invoice without VAT.

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	212.12

Table 59

3.7.1.19 Invoice TotVATAmt

Total amount of VAT (value added tax) which needs to be paid for all groups of items listed in this invoice.

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	242.23

Table 60

3.7.1.20 Invoice TotPrice

Total price which needs to be paid by the customer for all groups of items listed in this invoice including VAT.

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	212.12

Table 61

3.7.1.21 Invoice OperatorCode

Reference to the operator who is operating on TCR. Value represents code of the operator.

Data type	string
Length	10 characters
Pattern	[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3}
Example	ab123ab123

Table 62

3.7.1.22 Invoice BusinUnitCode

Code of the business unit (premise) in which the invoice is issued.

Data type	string
Length	10 characters

Pattern	[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3}
Example	ab123ab123

Table 63

3.7.1.23 Invoice SoftCode

Code of the software used for invoice issuing.

Data type	string
Length	10 characters
Pattern	[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3}
Example	ab123ab123

Table 64

3.7.1.24 Invoice ImpCustDecNum

Import customs declaration number. Only for internal use. Must not be populated by a TCR.

Data type	string
Length	50 characters
Example	N/A

Table 65

3.7.1.25 Invoice IIC

Invoice identification code which is generated by the TCR of the issuer of the invoice. This is a unique code for every invoice. The code is formed by concatenating the fields, signing with issuer's private key and calculating MD5 hash. Further description can be found in the chapter 5.3.3.3.

Data type	string
Max length	32
Pattern	[0-9a-fA-F]{32}
Example	C701FB4839E7D2C3D8DBC81BBAC06164 c701fb4839e7d2c3d8dbc81bbac06164

Table 66

3.7.1.26 Invoice IICSignature

Signed invoice identification code concatenated parameters. Further description can be found in the chapter 5.3.3.2.

Data type	string
Max length	512
Pattern	[0-9a-fA-F]{512}
Example	B2C218486302EC53EE1AB9124E1A14705742E870E8872EF34E63617AB252E189ACDF7A3E3F5C82061FFFF8AC2826A5588596A8807F648410899B6193F77F4BDCDFA 87553A62079A2EF9E6E6F0B8DA1038968D2FCB920B580EBF33ACEEDFEA0DAA78067F916ADC5D278CC237EFD53A6156EABAFBE98A8F3CE99E854818822FA20C0FF46 E5B3805264BBCD085F0A8A9BD503A1304E920D7304FF93541FB7FAA4629EE0BD7ED566F610DCD047721AEAA828DFECA651087CDE5AF95C125793D4CD8E83B801D E171335A866D7E31F1473BF0C93EBFD994326C0FE97ACB8DA722F788EA27B8D9E15E8E7B6EF772AB7534060F2BCAF1C3E82645235C9D1857B0790C2

Table 67

3.7.1.27 Invoice CorrectiveInv

XML element groups data for an original invoice that is will be corrected with current invoice.

3.7.1.28 Invoice CorrectiveInv IICRef

Reference to the invoice IIC of the original invoice. It is entered only if this is a corrective invoice of the original invoice that has to be changed.

Data type	string
Max length	32
Pattern	[0-9a-fA-F]{32}
Example	C701FB4839E7D2C3D8DBC81BBAC06164 c701fb4839e7d2c3d8dbc81bbac06164

Table 68

3.7.1.29 Invoice CorrectiveInv IssueDateTime

Date and time the original invoice is created and issued at TCR.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 69

3.7.1.30 Invoice CorrectiveInv Type

Type of the corrective invoice.

Data type	string
Constraint	Enumeration, described in the table below.
Example	DEBIT

Table 70

Enumeration values for corrective invoice types are listed in table below.

Value	Description
CORRECTIVE	Corrective invoice
DEBIT	Debit note
CREDIT	Credit note

Table 71

3.7.1.31 Invoice BadDebtInv

XML element groups data for an original invoice that will be declared bad debt invoice, as uncollectible.

3.7.1.32 Invoice BadDebt IICRef

IIC reference on the original invoice.

Data type	string
Max length	32
Pattern	[0-9a-fA-F]{32}
Example	C701FB4839E7D2C3D8DBC81BBAC06164 c701fb4839e7d2c3d8dbc81bbac06164

Table 72

3.7.1.33 Invoice BadDebt IssueDateTime

Date and time the original invoice is created and issued.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 73

3.7.1.34 Invoice IsReverseCharge

Buyer is obliged to pay VAT by himself instead of the seller.

Data type	boolean
Values	true, false
Example	true

Table 74

3.7.1.35 Invoice PayDeadline

Last day for payment.

Data type	date
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}
Example	2019-01-24

Table 75

3.7.1.36 Invoice IsEinvoice

If invoice is created for einvoice. When this flag is set, invoice is confirmed only after einvoice is received by the einvoice service.

Data type	boolean
Values	true, false
Example	true

Table 76

3.7.1.37 Invoice SumInvIICRefs

XML element that contains list of IIC-s referenced by this Summary invoice, e.g. individual invoices (or invoice/orders) that are included in the Summary invoice and which had payment method type COMPANY or ORDER.

3.7.1.38 Invoice SumInvIICRefs SumInvIICRef

XML element that contains one IIC reference, e.g. reference of the invoice that is part of the summary invoice.

3.7.1.39 Invoice SumInvIICRefs SumInvIICRef IIC

IIC of the invoice that is referenced in the summary invoice.

Data type	string
Max length	32 characters
Pattern	[0-9a-fA-F]{32}

Example	C701FB4839E7D2C3D8DBC81BBAC06164 c701fb4839e7d2c3d8dbc81bbac06164
---------	--

Table 77

3.7.1.40 Invoice SumInvIIRefs SumInvIIRef IssueDateTime

Date and time the invoice referenced by the summary invoice is created and issued at TCR.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 78

3.7.1.41 Invoice SupplyDateOrPeriod

XML element representing supply date or period of supply, if different from the date when the invoice was issued.

3.7.1.42 Invoice SupplyDateOrPeriod Start

Start date of the supply. To represent a specific date, start date must be same as the end date. To represent a period, start date must be before end date and in the same month as the end date.

Data type	date
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}
Example	2019-01-24

Table 79

3.7.1.43 Invoice SupplyDateOrPeriod End

End date of the supply. To represent a specific date, end date must be same as the start date. To represent a period, end date must be after start date, and in the same month as start date.

Data type	date
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}
Example	2019-01-24

Table 80

3.7.1.44 Invoice PayMethods

XML element representing list of invoice payment methods.

3.7.1.45 Invoice PayMethods PayMethod

XML element representing a single payment method on the list of payment methods.

3.7.1.46 Invoice PayMethods PayMethod Type

Method of payment.

Data type	string
Constraint	Enumeration, described in the table below.
Example	BANKNOTE

Table 81

Enumeration values for the method of payment are listed in table below.

Value	Description	Allowed invoice type
BANKNOTE	Banknotes and coins	CASH
CARD	Credit and debit card	CASH
CHECK	Bank check	CASH
SVOUCHER	Single-purpose voucher	CASH
COMPANY	Seller's company cards and similar	CASH
ORDER	Invoice not yet paid. It will be paid by summary invoice.	CASH
ACCOUNT	Transaction account	NONCASH
FACTORING	Factoring	NONCASH
COMPENSATION	Compensation	NONCASH
TRANSFER	Transfer of rights or debts	NONCASH
WAIVER	Waiver of debts	NONCASH
KIND	Payment in kind (clearing)	NONCASH
OTHER	Other cashless payments	NONCASH

Table 82

3.7.1.47 Invoice PayMethods PayMethod Amt

Total price paid with one payment method.

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	212.12

Table 83

3.7.1.48 Invoice PayMethods PayMethod CompCard

Company card number if the payment method is company card.

Data type	string
Length	50 characters
Example	1257896

Table 84

3.7.1.49 Invoice PayMethods PayMethod Vouchers

XML element that contains list of voucher numbers if the payment method is voucher. It can be more than one voucher used for the same invoice (i.e. for the same supply, but one voucher cannot be split for 2 or more supplies).

3.7.1.50 Invoice PayMethods PayMethod Vouchers Voucher

XML element that contains one voucher serial number.

3.7.1.51 Invoice PayMethods PayMethod Vouchers Voucher Num

Voucher serial number.

Data type	string
Length	17-25 characters

Pattern	[1-9][0-9]{0,7}-[0-9]{4}-[a-zA-Z]{1}[0-9]{8}[a-zA-Z]{1}
Example	2-2020-J43675678H 34564-2020-J43675678H

Table 85

3.7.1.52 Invoice Currency

XML element representing currency in which the amount on the invoice is or should be paid.

3.7.1.53 Invoice Currency Code

Currency code in which the amount on the invoice is or should be paid. Code is expressed by the ISO 4217 standard.

Data type	string
Constraint	Enumeration, described in the table below.
Example	EUR

Table 86

Enumeration values for selected currency codes are listed in table below. Other values can be found in the fiscalization service scheme in the chapter 8.

Value	Description
ALL	Leku Shqiptar
EUR	EURO
USD	Dollari Amerikan
MKD	Dinari Maqedonas
TRY	Lira Turke
BGN	Leva Bullgare
HRK	Kuna Kroate
ALL	Leku Shqiptar
...	...

Table 87

3.7.1.54 Invoice Currency ExRate

Exchange rate applied to calculate the equivalent amount of foreign currency for the total amount expressed in ALL. Exchange rate express equivalent amount of ALL for 1 unit of foreign currency.

Data type	double
Constraints	Must be positive number.
Example	123.56

Table 88

3.7.1.55 Invoice Currency IsBuying

True if exchange transaction is buying of the foreign currency. False if exchange transaction is selling of the foreign currency.

Data type	boolean
Values	true, false
Example	true

Table 89

3.7.1.56 Invoice Seller

XML element representing a seller.

3.7.1.57 Invoice Seller IDNum

Seller's identification number.

Data type	string
Length	20 characters
Example	For NUIS: K72001008V For Social security number: 123-45-6789

Table 90

3.7.1.58 Invoice Seller IDType

Seller's identification number type.

Data type	string
Constraint	Enumeration, described in the table below.
Example	NUIS

Table 91

Enumeration values for the identification number type are listed in table below.

Value	Description
NUIS	NUIS number
ID	Personal ID number
PASS	Passport number
VAT	VAT number
TAX	TAX number
SOC	Social security number

Table 92

3.7.1.59 Invoice Seller Name

Seller's name.

Data type	string
Length	200 characters
Example	Name Surname

Table 93

3.7.1.60 Invoice Seller Address

Seller's address.

Data type	string
Length	400 characters
Example	Plaza Tirana 1

Table 94

3.7.1.61 Invoice Seller Town

Seller's town.

Data type	string
Length	200 characters
Example	Tirana

Table 95

3.7.1.62 Invoice Seller Country

Seller's country represented as ISO 3166-1 Alpha-3 code.

Data type	string
Constraint	Enumeration, described in the table below.
Example	ALB

Table 96

Enumeration values for selected countries are listed in table below.

Value	Description
ALB	Albania
GRC	Greece
MKD	North Macedonia
RKS	Kosovo
MNE	Montenegro
ITA	Italy
...	...

Table 97

3.7.1.63 Invoice Buyer

XML element representing a buyer that purchase goods.

3.7.1.64 Invoice Buyer IDNum

Buyer's identification number.

Data type	string
Length	20 characters
Example	For NUIS: K72001008V For Social security number: 123-45-6789

Table 98

3.7.1.65 Invoice Buyer IDType

Buyer's identification number type.

Data type	string
Constraint	Enumeration, described in the table below.
Example	NUIS

Table 99

Enumeration values for the identification number type are listed in table below.

Value	Description
NUIS	NUIS number
ID	Personal ID number
PASS	Passport number
VAT	VAT number
TAX	TAX number
SOC	Social security number

Table 100

3.7.1.66 Invoice Buyer Name

Buyer's name.

Data type	string
Length	200 characters
Example	Name Surname

Table 101

3.7.1.67 Invoice Buyer Address

Buyer's address.

Data type	string
Length	400 characters
Example	Street Name 888

3.7.1.68 Invoice Buyer Town

Buyer's town.

Data type	string
Length	200 characters
Example	Tirana

Table 102

3.7.1.69 Invoice Buyer Country

Buyer's country represented as ISO 3166-1 Alpha-3 code.

Data type	string
Constraint	Enumeration, described in the table below.
Example	ALB

Table 103

Enumeration values for selected countries are listed in table below.

Value	Description
ALB	Albania
GRC	Greece

MKD	North Macedonia
RKS	Kosovo
MNE	Montenegro
ITA	Italy
...	...

Table 104

3.7.1.70 Invoice Items

XML element representing list of invoice items (goods or services). Items which are the same should be grouped as one item (one XML element called "Item") with the appropriate amount (sum of the same items).

3.7.1.71 Invoice Items I (Item)

XML element representing a single item on the list of items.

3.7.1.72 Invoice Items I N (Item Name)

Name of the item.

Data type	string
Max length	50 characters
Example	Wine 1.5L

Table 105

3.7.1.73 Invoice Items I C (Item Code)

Code of the item from the barcode or similar representation. It helps in identification of the product (item).

Data type	string
Max length	50 characters
Example	978020137962

Table 106

3.7.1.74 Invoice Items I U (Item Unit of measure)

Unit of measure for specific item – piece, weight, length...

Data type	string
Max length	50 characters
Example	Kg

Table 107

3.7.1.75 Invoice Items I Q (Item Quantity)

Amount or number (quantity) of items.

Data type	double
Pattern	-?([1-9][0-9]* 0)(\.[0-9]{1,3})?
Example	3.500 -0.375

Table 108

3.7.1.76 Invoice Items I UPB (Item Unit Price Before VAT)

Price of one item before Value added tax is applied (unit price without VAT).

Data type	decimal
Pattern	<code>([1-9][0-9]* 0)\.[0-9]{2} 0</code>
Example	3.50

Table 109

3.7.1.77 Invoice Items I UPA (Item Unit Price After VAT)

Price of one item after Value added tax is applied (unit price with VAT). It is calculated as PA/Q.

Data type	decimal
Pattern	<code>([1-9][0-9]* 0)\.[0-9]{2} 0</code>
Example	3.85

Table 110

3.7.1.78 Invoice Items I R (Item Rebate)

Rebate percentage.

Data type	decimal
Example	12 33.17

Table 111

3.7.1.79 Invoice Items I RR (Item Rebate Reducing base price)

Is rebate reducing tax base price?

Data type	Boolean
Values	true, false
Example	True

Table 112

3.7.1.80 Invoice Items I PB (Item Price Before VAT)

Price before VAT for the items in this group of items. This is not the unit price of the item. It is the unit price multiplied by the quantity of items (UPB*Q).

Data type	decimal
Pattern	<code>-?([1-9][0-9]* 0)\.[0-9]{2} 0</code>
Example	134.34

Table 113

3.7.1.81 Invoice Items I VR (Item VAT Rate)

Rate of value added tax expressed as percentage. Currently allowed tax rates are 0%, 6%, 10% and 20%.

Data type	decimal
Pattern	<code>-?([1-9][0-9]* 0)\.[0-9]{2} 0</code>

Example	10.00
---------	-------

Table 114

3.7.1.82 Invoice Items I EX (Item Exempt from VAT)

Exemption from VAT type

Data type	string
Constraint	Enumeration, described in the table below.
Example	TYPE_1

Table 115

Enumeration values for the exempt from VAT types are listed in table below.

Value	Description
TYPE_1	Exempt type 1. Exempted on the basis of Article 51 of the VAT law
TYPE_2	Exempt type 2. Exempted on the basis of Articles 53 and 54 of the VAT law
TAX_FREE	Tax free amount. Sales without VAT that is exempted based on VAT law other than articles 51, 53 and 54 of VAT law, and is not margin scheme nor export of goods
MARGIN_SCHEME	Margin scheme (Travel agents VAT scheme, second hand goods VAT scheme, works of art VAT scheme, collectors' items and antiques VAT scheme etc.).
EXPORT_OF_GOODS	Export of goods. No VAT.

Table 116

3.7.1.83 Invoice Items I VA (Item VAT Amount)

Amount of value added tax for all quantity of the same item. Calculated as PB*VR

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	3.50

Table 117

3.7.1.84 Invoice Items I IN (Is Investment)

Item bought is investment for the buyer. Optional field, mandatory just for importation of goods.

Data type	boolean
Values	true, false
Example	true

Table 118

3.7.1.85 Invoice Items I PA (Item Price After applying VAT)

Price including VAT for all quantity of the same item. Is calculated as PB+VA

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	3.50

Table 119

3.7.1.86 Invoice Items I VS (Vouchers sold)

XML element that contains data about vouchers sold.

3.7.1.87 Invoice Items I VS VD (Vouchers sold data)

XML element that contains common data for vouchers sold.

3.7.1.88 Invoice Items I VS VD D (Date)

Expiration date of the voucher.

Data type	date
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}
Example	2020-05-28

Table 120

3.7.1.89 Invoice Items I VS VD N (Nominal value)

Nominal voucher value, i.e. the amount written on the voucher or accompanying documentation representing the price of the goods and services that can be exchanged for the voucher. If there is no nominal value on the voucher, but just the quantity of the goods that can be exchanged, then the nominal value is the price that the buyer of the voucher has paid to the seller (i.e. issuer) of the voucher.

Data type	decimal
Pattern	([1-9][0-9]* 0)\.[0-9]{2} 0
Example	350.00

Table 121

3.7.1.90 Invoice Items I VS VN (Vouchers sold serial numbers)

XML element that contains list of vouchers sold serial numbers.

3.7.1.91 Invoice Items I VS VN V (Voucher sold)

XML element that contains one voucher sold serial number.

3.7.1.92 Invoice Items I VS VN V Num (Voucher serial number)

Voucher sold serial number consistent of: ordinal number-year of issuance-NIPT of issuer.

Data type	string
Length	17-25 characters
Pattern	[1-9][0-9]{0,7}-[0-9]{4}-[a-zA-Z]{1}[0-9]{8}[a-zA-Z]{1}
Example	2-2020- J43675678H 34564-2020- J43675678H

Table 122

3.7.1.93 Invoice SameTaxes

XML element representing list of invoice items (goods or services) that are under same VAT rate/or exempted from VAT. All items of same VAT rate/exemption are grouped together. Only the exemption Type_1 and Type_2 are written here.

3.7.1.94 Invoice SameTaxes SameTax

XML element representing several goods or services that are under same VAT rate/exemption.

3.7.1.95 Invoice SameTaxes SameTax NumOfItems

Number of items of same tax rate/exemption.

Data type	int
Constraint	Positive
Example	2

Table 123

3.7.1.96 Invoice SameTaxes SameTax PriceBefVAT

Total Price of items of the same tax rate/exemption before VAT

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	12.20

Table 124

3.7.1.97 Invoice SameTaxes SameTax VATRate

VAT rate applied on items with the same tax rate/exemption, expressed as percentage.

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	10.00

Table 125

3.7.1.98 Invoice SameTaxes SameTax ExemptFromVAT

Exemption from VAT type

Data type	string
Constraint	Enumeration, described in the table below.
Example	TYPE_1

Table 126

Enumeration values for the exempt from VAT types are listed in table below.

Value	Description
TYPE_1	Exempt type 1. Exempted on the basis of Article 51 of the VAT law
TYPE_2	Exempt type 2. Exempted on the basis of Articles 53 and 54 of the VAT law

Table 127

3.7.1.99 Invoice SameTaxes SameTax VATAmt

VAT amount for items from the same tax rate/exemption .

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	246.00

Table 128

3.7.1.100 Invoice ConsTaxes

XML element representing list of invoice items (goods or services) that are under consumption tax.

3.7.1.101 Invoice ConsTaxes ConsTax

XML element representing a single goods or services that are under same consumption tax.

3.7.1.102 Invoice ConsTaxesConsTax NumOfItems

Number of items under the consumption tax.

Data type	int
Constraint	Positive
Example	2

Table 129

3.7.1.103 Invoice ConsTaxesConsTax PriceBefConsTax

Price of the item before consumption tax.

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	12.20

Table 130

3.7.1.104 Invoice ConsTaxesConsTax ConsTaxRate

Consumption tax rate.

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	10.00

Table 131

3.7.1.105 Invoice ConsTaxesConsTax ConsTaxAmt

Consumption tax amount.

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	246.00

Table 132

3.7.1.106 Invoice Fees

XML element representing list of invoice fee items.

3.7.1.107 Invoice Fees Fee

XML element representing a single fee.

3.7.1.108 Invoice Fees Fee Type

Type of the fee.

Data type	string
Constraint	Enumeration, described in the table below.
Example	PACK

Table 133

Enumeration values for fees are listed in table below.

Value	Description
PACK	Packaging fee
BOTTLE	Fee for the return of glass bottles
COMMISSION	Commission for currency exchange activities
OTHER	Other fees that are not listed here.

Table 134

3.7.1.109 Invoice Fees Fee Amt

The decimal amount of the fee.

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	12.20

Table 135

3.7.1.110 Signature

XML element stores enveloped digital signature described in the chapter 5.3.1.

3.7.2 REGISTER INVOICE RESPONSE DATA MESSAGE

Name	Field type	Occurrence [Min, Max]	Description
RegisterInvoiceResponse	Element	[1, 1]	Root XML element representing register invoice response message.
Id	Attribute	[1, 1]	Attribute used for signature creation and verification. Fixed value "Response".
Version	Attribute	[1,1]	Attribute used to specify compliance with XSD schema. For this version fixed value is "3".
Header	Element	[1, 1]	XML element representing generic message data about the response sent.
UUID	Attribute	[1, 1]	UUID generated by a CIS for every register invoice response data message send to the TCR.
RequestUUID	Attribute	[1, 1]	UUID of the request message for which this response message was sent.
SendDateTime	Attribute	[1, 1]	Date and time of sending the register invoice response data message from a CIS to the TCR.
FIC	Element	[1, 1]	CIS generated verification code that can be used to uniquely identify registered invoice.
Signature	Element	[1, 1]	XML element with signature.

Table 136

3.7.2.1 Header

XML element representing header of the response data message.

3.7.2.2 Header UUID

Element generated by the CIS for every message sent to the TCR. It uniquely identifies the message sent to the TCR. UUID should be constructed according to the RFC4122 version 4.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 137

3.7.2.3 Header RequestUUID

Element generated by the TCR and referenced by the CIS. It uniquely identifies the request message for which response message was sent to the TCR. UUID should be constructed according to the RFC4122 version 4.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 138

3.7.2.4 Header SendDateTime

Element represents date and time of sending the response message to the TCR. Date and time should be in ISO 8601 format.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+-][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 139

3.7.2.5 FIC

Element represents unique number generated by the CIS under which the requested invoice is registered.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 140

3.7.2.6 Signature

XML element stores enveloped digital signature described in the chapter 5.3.1.

3.7.3 MANDATORY CONTROLS

Mandatory controls shall be performed on received invoices data messages in the CIP system in real time. When any of the critical controls return a failure, the invoice data message shall not be approved, and FIC shall not be issued.

Upon identifying a critical error, CIS will return an error data message containing the error's numeric code and its text description (see chapter 3.8.6). When errors which the system can interpret as a cyber-attack are identified, the system does not send any response to the client (the TCR).

The mandatory controls include all the controls from chapter 3.1 and the following:

Control Name	Control Description (Error if)	Error code
NUIS ID type	Invoice.TypeOfSelfIss exists and Invoice.Buyer.IDType is not NUIS. Invoice.TypeOfSelfIss does not exist and Invoice.Seller.IDType is not NUIS.	54
Taxpayer does not exist	Taxpayer does not exist in RTP.	52
Taxpayer status invalid	Taxpayer is not active in the RTP.	55
Issuer VAT status invalid	Invoice.IsIssuerInVAT status is different from the real issuer VAT status.	44
Invoice VAT status invalid	Invoice.IsIssuerInVAT is false and Invoice.TotVATAmt attribute exist. Invoice.IsIssuerInVAT is false and Invoice.SameTaxes element exist. Invoice.IsReverseCharge is true and Invoice.TotVATAmt attribute does not exist. Invoice.IsReverseCharge is true and Invoice.SameTaxes element does not exist.	11
Cash invoice limit	Invoice.TypeOfInv is CASH, Invoice Buyer IDType is NUIS, Invoice Seller IDType is NUIS and Invoice.TotPrice is more than allowed amount.	40
Issue datetime invalid	Invoice.IssueDateTime is in the future. Invoice.IssueDateTime is not equal to the Header.SendDateTime and Header.SubseqDelivType does not exist and Invoice.TypeOfInv is CASH. Invoice.IssueDateTime is not from the same day as the Header.SendDateTime and Header.SubseqDelivType does not exist and Invoice.TypeOfInv is NONCASH. Invoice.IssueDateTime more than 2 days in the past from now and Header.SubseqDelivType equals to SERVICE or TECHNICALERROR. Invoice.IssueDateTime more than 11 days in the past from now and Header.SubseqDelivType equals BOUNDBOOK. Invoice.IssueDateTime is not in the current or previous month or is in the previous month but the send date is not less or equal to 10th of the current month and Header.SubseqDelivType equals NOINTERNET.	11
Negative values invalid	Invoice.CorrectiveInv or Invoice.BadDebtInv does not exist and negative values found in following fields: <ul style="list-style-type: none"> • Invoice.TaxFreeAmt • Invoice.MarkUpAmt • Invoice.GoodsExAmt • Invoice.TotPriceWoVAT • Invoice.TotVATAmt • Invoice.TotPrice • Invoice.SameTaxes.SameTax.VATAmt • Invoice.ConsTaxes.ConsTax.ConsTaxAmt • Fees.Fee.Amt 	
TCRCode invalid	Invoice.TCRCode does not exist and Invoice.TypeOfInv equals to CASH.	11
Supply date or period invalid	Invoice.SupplyDateOrPeriod.Start date is not before Invoice.SupplyDateOrPeriod.End date. Invoice.SupplyDateOrPeriod.Start month is different from Invoice.SupplyDateOrPeriod.End month.	11
Payment method invalid	Invoice.PayMethods.PayMethod.Type is COMPANY and Invoice.PayMethods.PayMethod.CompCard does not exist. Invoice.PayMethods.PayMethod.Type is SVOUCHER and Invoice.PayMethods.PayMethod.Vouchers does not exist	11

	Sum of values of Invoice.PayMethods.PayMethod.Amt is not equal to Invoice.TotPrice value.	
Seller fields missing	Seller.IDType is not NUIS or ID and Seller.Address, Seller.Town and Seller.Country does not exist.	11
Buyer fields missing	All Invoice.Buyer fields doesn't exist and Invoice.TypeOfSelflss exists or Invoice.GoodsExAmt exists or Invoice.IsReverseCharge equals true.	11
Fatura elektronike	Invoice.IsInvoice equals true and Invoice.TypeOfInv is different from NONCASH.	11
Total price without VAT	TotPriceWoVAT attribute value is not sum of SameTaxes, TaxFreeAmt, MarkUpAmt and GoodsExAmt attributes.	59
Invoice number invalid	Invoice.InvNum is not composed of invoice ordinal number, year of invoice issuance and code of TCR that issued invoice only if CASH invoice is issued.	60
Issue date of original invoice	Invoice.SumInvIICRefs.SumInvIICRef.IssueDateTime or Invoice.CorrectiveInv.IssueDateTime or Invoice.BedDeptInv.IssueDateTime are in distant past. Invoice.SumInvIICRefs.SumInvIICRef.IssueDateTime or Invoice.CorrectiveInv.IssueDateTime or Invoice.BedDeptInv.IssueDateTime are in future. Invoice.SumInvIICRefs.SumInvIICRef.IssueDateTime or Invoice.CorrectiveInv.IssueDateTime or Invoice.BedDeptInv.IssueDateTime are after Invoice.IssueDateTime.	61
Referenced invoice	Invoice.SumInvIICRefs.SumInvIICRef.IIC or Invoice.CorrectiveInv.IICRef or Invoice.BedDeptInv.IICRef are same as Invoice.IIC.	

Table 141

3.7.4 ERROR MESSAGE

Error message is defined in chapter 3.8.6.

3.7.5 EXAMPLE XML

3.7.5.1 Request XML

```

<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <RegisterInvoiceRequest xmlns="https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema"
      xmlns:ns2="http://www.w3.org/2000/09/xmldsig#" Id="Request" Version="3">
      <Header SendDateTime="2019-12-05T14:30:13+01:00" UUID="8d216f9a-55bb-445a-be32-30137f11b964" />
      <Invoice BusinUnitCode="bb123bb123" IssueDateTime="2019-12-05T14:30:13+01:00" IIC="4AD5A215BEAF85B0416235736A6DACAB"
        IICSignature="83D728C8E10BA04C430BE64CE98612B0256C0FE618C167F28BF62A0C0CB38C51824F152AB00510AE076508E53ACE4F877D25D51C7830F043E09B
        B1500D3A0AEA233ECC6175A45FE58CBF53E517FD9EA1D06CBABC05EEE6B430A16560C96D3A27720A6E5C9BA5C8D18A7AE5C2A7F1D8E46B293F56D32847FCEE199
        D2AFDC6E5BC1164BA974A6E29D6F40FBD8C51D40A99BC97DD6DB2AE9EC0582F2E74E9C7841AC5A854DE92B1D778A809CACCBBEF4DC325C852487BCF035AA2D5459
        4DC6BDD859E250782CCDD7CC89EE80A2FE1030AAAD615DA5D728322F8590D9F56E6DDE5975A738F304F56BB832996763624B72C77E97881D9C647B50709F20AFB
        FA0602" InvNum="1/2019/cc123cc123" InvOrdNum="1" IsIssuerInvAT="true" IsReverseCharge="false" IsSimplifiedInv="false"
        OperatorCode="cc123cc123" SoftCode="ss123ss123" TCRCode="cc123cc123" TotPrice="20.00" TotPriceWoVAT="16.00" TotVATAmt="4.00"
        TypeOfInv="CASH">
        <PayMethods>
          <PayMethod Amt="20.00" Type="BANKNOTE"/>
        </PayMethods>
        <Seller Address="Seller address" Country="ALB" IDNum="L91806031N" IDType="NUIS" Name="Seller name" Town="Seller
        town"/>
        <Items>
          <I C="501234567890" N="Item name" PA="20.00" PB="16.00" Q="1.0" R="0" RR="true" U="piece" UPB="16.00"
          UPA="20.00" VA="4.00" VR="25.00"/>
        </Items>
        <SameTaxes>
          <SameTax NumOfItems="1" PriceBefVAT="16.00" VATAmt="4.00" VATRate="25.00"/>
        </SameTaxes>
      </Invoice>
      <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
        <SignedInfo>
          <CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
          <SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256" />
          <Reference URI="#Request">
            <Transforms>
              <Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature" />
              <Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#" />
            </Transforms>
            <DigestMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#sha256" />
            <DigestValue>ECWby0FKaNQ6.....m8BBpjyK6g=</DigestValue>
          </Reference>
        </SignedInfo>
      </Signature>
    </RegisterInvoiceRequest>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

```

<SignatureValue>LHFUg3xNi.....tjpeYNw==</SignatureValue>
<KeyInfo>
  <X509Data>
    <X509Certificate>MIIFYDCC.....Pifz0U1KJAanmqN3</X509Certificate>
  </X509Data>
</KeyInfo>
</Signature>
</RegisterInvoiceRequest>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

3.7.5.2 Response XML

```

<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <ns2:RegisterInvoiceResponse Id="Response" Version="3"
      xmlns:ns2="https://efiskalizimi.tatime.gov.al/FiscalizationService/schema" xmlns:ns3="http://www.w3.org/2000/09/xmldsig#"
      <ns2:Header RequestUUID="8d216f9a-55bb-445a-be32-30137f11b964" SendDateTime="2019-11-27T09:41:12+01:00"
        UUID="f8bcb5ae-59fb-41ac-9011-f4db86bbe26"/>
      <ns2:FIC>a592e7ec-9517-4f02-8d54-ac965f679a8c</ns2:FIC>
      <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
        <SignedInfo>
          <CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#">
          <SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256">
          <Reference URI="#Response">
            <Transforms>
              <Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature"/>
              <Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#">
            </Transforms>
            <DigestMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#sha256">
            <DigestValue>WYXOkHAD.....SLOIbwDdHCQk=</DigestValue>
          </Reference>
        </SignedInfo>
        <SignatureValue>Bnr1bB8Ic.....bFAjdVUPa==</SignatureValue>
        <KeyInfo>
          <X509Data>
            <X509Certificate>MIIFRjCCB.....gpNT2r23YQ==</X509Certificate>
          </X509Data>
        </KeyInfo>
      </Signature>
    </ns2:RegisterInvoiceResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

3.7.6 QR CODE GENERATION

Each invoice must contain a QR-code which has a URL inside. The URL leads to the web application “Invoice check” and displays information about the invoice if the invoice is successfully registered or instructs user to report an issue if it is not registered within the required timeframe.

QR-code contains a URL with special query string which identifies the invoice. First part of the URL is fixed and contains the protocol, hostname and path followed by the query parameters.

Fixed part of the URL:

- Test environment:
 - <https://efiskalizimi-app-test.tatime.gov.al/invoice-check/#/verify>
- Production environment:
 - <https://efiskalizimi-app.tatime.gov.al/invoice-check/#/verify>

Query parameters:

Parameter name	Description	Sample value
iic	Invoice IIC (issuer’s identification number)	EA26D5BE7F45827026108F825A8A512B
tin	Taxpayer identification number (issuer’s TIN)	L91806031N
crtcd	Date and time when the invoice was created. Value is displayed in special format “yyyy-mm-ddThh:mi:ss+/-zh:zm” where yyyy represents year, mm month, dd day of the month, T is fixed value, hh represents hours in 24-hours	2019-09-26T13:50:13+01:00

	format, <i>mi</i> minutes, <i>ss</i> seconds, +/-zh:zm represents time zone.	
ord	Invoice ordinal number	6
bu	Code of the business unit (premise)	bg517kw842
cr	Code of the TCR	xb131ap287
sw	Code of the software installed on the TCR	gz434bv927
prc	Total price of the invoice	199.00

Table 142 - QR code URL query parameters

QR code must be created with at least M error correction level that guaranties that at least 15% of character can be restored.

3.7.6.1 QR code example

Sample data from Table 142 is only a sample and may not lead to an actual fiscalized invoice.

Example URL encoded in a QR-code with sample values from the Table 142 is:

<https://efiskalizimi-app-test.tatime.gov.al/invoice-check/#/verify?iic=EA26D5BE7F45827026108F825A8A512B&tin=L91806031N&crtid=2019-09-26T13:50:13+01:00&ord=6&bu=bg517kw842&cr=xb131ap287&sw=gz434bv927&prc=199.00>

Example QR-code which is formed from the URL above is:



Figure 7 - QR code sample

3.8 WAREHOUSE TRANSFER NOTE

Warehouse transfer note is a document that is sent when goods are transferred between warehouses of the same owner (company) or between warehouse and business unit where the goods are sold. That means that every movement of goods on the territory of the Republic of Albania will be recorded and the Tax administration will know about it.

Process itself starts with the request for the new note. Fiscalization is initiated and an XML message is created on the taxpayer's electronic billing device and then signed with a digital certificate. Message is then sent to the CIS. If it is valid, it is saved in the database and its IIC is generated. XML message with data is then created and signed and then sent back to the electronic billing device where it is printed out.

If the message is not valid when CIS receives it, it will be sent back and refiscalized.

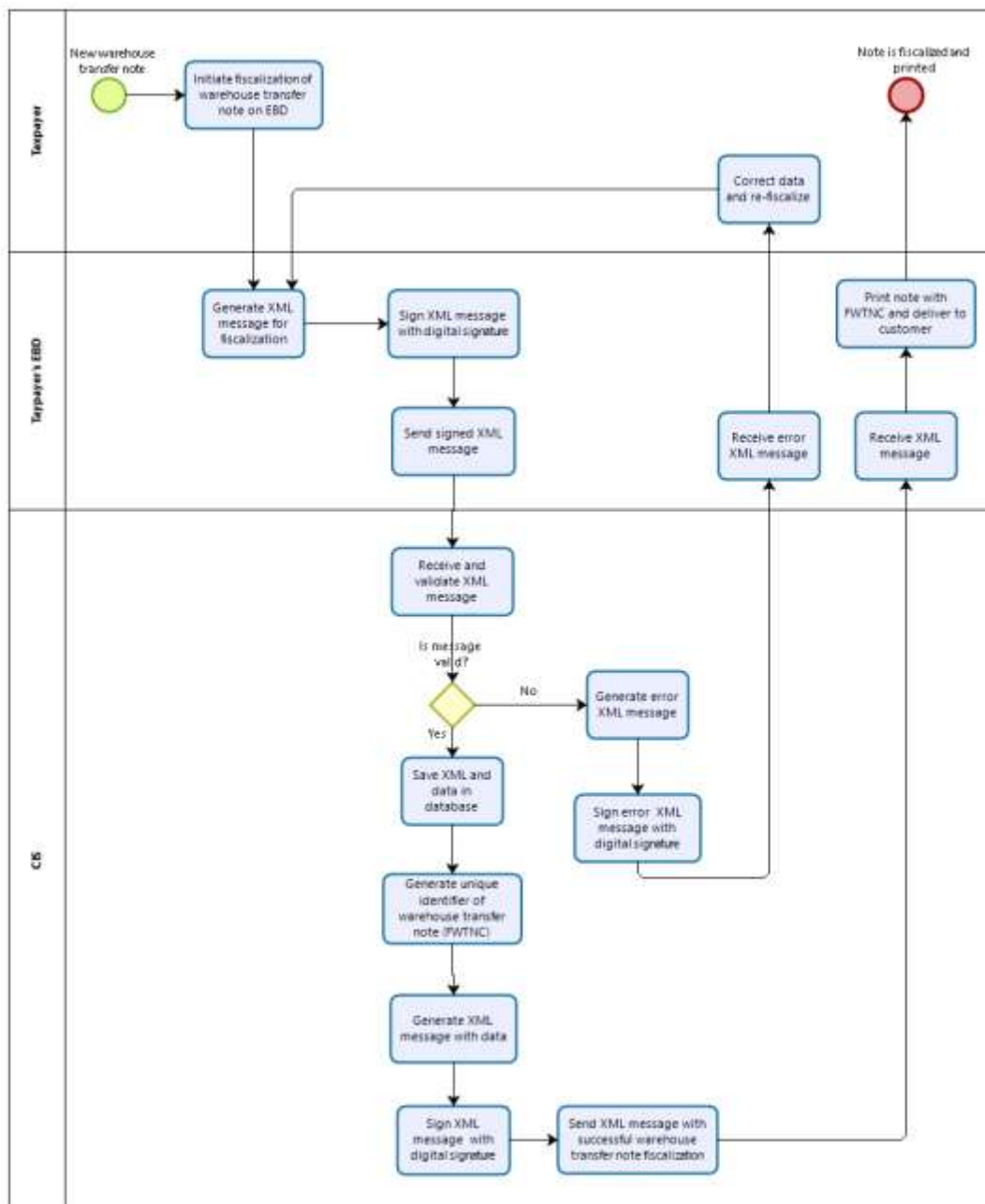


Figure 8 – Fiscalization of warehouse transfer note

3.8.1 WAREHOUSE TRANSFER NOTE REQUEST MESSAGE

Name		Field type	Occurrence [Min, Max]	Description
RegisterWTNRequest		Root	[1, 1]	Root XML element representing warehouse transfer note request message.
Header		Element	[1, 1]	XML element representing header of the note containing data about the message sent.
	UUID	Attribute	[1, 1]	UUID generated by the TCR.
	SendDateTime	Attribute	[1, 1]	Date and time of sending the message from a TCR to the CIS.
	SubseqDelivType	Attribute	[0, 1]	Type of subsequent delivery if message is delivered after warehouse transfer note issuance.
	Source	Attribute	[0, 1]	Only for internal usage. Must not be populated by a TCR.
WTN		Element	[1, 1]	XML element representing header of the note containing data about the message sent.
	Type	Attribute	[1,1]	Type of WTN.
	Transaction	Attribute	[1,1]	Transaction type.
	IssueDateTime	Attribute	[1,1]	Date and time of creation of the WTN.
	OperatorCode	Attribute	[1,1]	Reference to the operator who is operating on TCR. Value represents code of the operator.
	BusinUnitCode	Attribute	[1,1]	Code of the business unit in which the note is issued.
	SoftCode	Attribute	[1,1]	Code of the software used for WTN issuing.
	WTNOrdNum	Attribute	[1,1]	WTN ordinal number.
	WTNNum	Attribute	[1,1]	Unique identifying number of the warehouse transfer note. It consists of ordinal number of the note and calendar year, without leading zero.
	ValueOfGoods	Attribute	[1,1]	Cost of goods at cost price.
	VehOwnership	Attribute	[1,1]	Vehicle ownership type.
	VehPlates	Attribute	[1,1]	Plates of the vehicle that will transport the goods.
	StartAddr	Attribute	[1,1]	Address of the starting point of transportation.
	StartCity	Attribute	[1,1]	City of the starting point of transportation.
	StartDateTime	Attribute	[1,1]	Date and time of the transport departure from start address.
	StartPoint	Attribute	[1,1]	Type of start point.
	DestinAddr	Attribute	[1,1]	Address of destination.
	DestinCity	Attribute	[1,1]	City of destination.
	DestinDateTime	Attribute	[1,1]	Expected date when the goods should arrive to its destination.
	DestinPoint	Attribute	[1,1]	Type of destination point.
	IsGoodsFlammable	Attribute	[1,1]	Are goods flammable or not.
	IsEscortRequired	Attribute	[1,1]	Is escort required or not.
	PackType	Attribute	[0,1]	Type of packaging.
	PackNum	Attribute	[0,1]	Number of packs.
	ItemsNum	Attribute	[0,1]	Number of items of goods.
	WTNIC	Attribute	[1,1]	Warehouse transfer note identification code.
	WTNICSignature	Attribute	[1,1]	Signed warehouse transfer note identification code concatenated parameters.
Issuer		Element	[1,1]	XML element representing the issuer of the WTN.
	NUIS	Attribute	[1,1]	NUIS of the WTN issuer.
	Name	Attribute	[1,1]	Name of the WTN issuer.
	Address	Attribute	[1,1]	Address of the WTN issuer.
	Town	Attribute	[1,1]	Town of the WTN issuer.
Carrier		Element	[0,1]	XML element representing the carrier of the goods.
	IDType	Attribute	[1,1]	Carrier's identification number type.
	IDNum	Attribute	[1,1]	Carrier's identification number.

		Name	Attribute	[1,1]	Carrier's name.
		Address	Attribute	[0,1]	Carrier's address.
		Town	Attribute	[0,1]	Carrier's town.
		Items	Element	[1,1]	XML element representing list of items.
		I (Item)	Attribute	[1,1000]	XML element representing one item.
		N (Name)	Attribute	[1,1]	Name of the item
		C (Code)	Attribute	[0,1]	Code of the item from the barcode or similar representation.
		U (Unit of measure)	Attribute	[1,1]	What is the item's unit of measure (piece, weight measure, length measure...).
		Q (Quantity)	Attribute	[1,1]	Amount or number (quantity) of items

Table 143

3.8.1.1 Header

XML element representing the header of the message.

3.8.1.2 Header UUID

Element generated by the CIS for every message sent to the TCR. It uniquely identifies the message sent to the TCR. UUID should be constructed according to the RFC4122 version 4.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 144

3.8.1.3 Header SendDateTime

Element represents date and time of sending the response message to the TCR. Date and time should be in ISO 8601 format.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 145

3.8.1.4 Header SubseqDelivType

This element shows the type of subsequent delivery if message is delivered after warehouse transfer note issuance.

Data type	string
Values	Enumeration, described in the table below.
Example	NOINTERNET

Table 146

Following table shows the list of allowed values inside SubseqDelivType attribute.

Value	Description
NOINTERNET	When TCR operates in the area where there is no Internet available.
BOUNDBOOK	When TCR is not working and message cannot be created with TCR.

SERVICE	When there is an issue with the fiscalization service that blocks fiscalization.
TECHNICALERROR	When there is a temporary technical error at TCR side that prevents successful fiscalization.

Table 147

3.8.1.5 Header Source

Only for internal use. Must not be populated by a TCR.

Data type	string
Length	32 characters
Example	N/A

Table 148

3.8.1.6 WTN

XML root element representing the wtn.

3.8.1.7 WTN Type

This attribute shows the type of WTN.

Data type	string
Values	Enumeration, described in the table below.
Example	WTN

Table 149

Following table shows the list of allowed values inside Type attribute.

Value	Description
WTN	WTN without changing ownership.
SALE	Transport document for sale of fuels.

Table 150

3.8.1.8 WTN Transaction

This attribute shows the type of transaction.

Data type	string
Values	Enumeration, described in the table below.
Example	SALES

Table 151

Following table shows the list of allowed values inside Transaction attribute.

Value	Description
SALES	Regular sales transaction type for fuels.
EXAMINATION	Examination transaction type for fuels.
TRANSFER	Transfer transaction type.
DOOR	The goods are transferred for door to door sales transaction type.

Table 152

3.8.1.9 WTN IssueDateTime

Time and date when the WTN is created and issued at TCR.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+ -][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 153

3.8.1.10 WTN OperatorCode

Reference to the operator who is operating on TCR. Value represents code of the operator.

Data type	string
Length	10 characters
Pattern	[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3}
Example	ab123ab123

Table 154

3.8.1.11 WTN BusinUnitCode

Code of the business unit (premise) in which the WTN is issued.

Data type	string
Length	10 characters
Pattern	[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3}
Example	ab123ab123

Table 155

3.8.1.12 WTN SoftCode

Code of the software used for WTN issuing.

Data type	string
Length	10 characters
Pattern	[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3}
Example	ab123ab123

Table 156

3.8.1.13 WTN WTNOrdNum

WTN ordinal number is a sequence that is assigned to each new WTN so that the WTNs can be counted. The sequence is reset at the beginning of each year.

Data type	integer
Constraint	Positive
Example	2

Table 157

3.8.1.14 WTN WTNNum

WTN number composed of WTN ordinal number, year of WTN issuance. WTN ordinal number is a sequence that is assigned to each new WTN so that the WTNs can be counted. The sequence is reset at the beginning of each year.

Data type	string
Pattern	[1-9]{1}[0-9]{0,14}∨[0-9]{4}∖[a-z]{2}[0-9]{3}[a-z]{2}[0-9]{3})?
Example	9934/2019

Table 158

3.8.1.15 WTN ValueOfGoods

Cost of goods at cost price.

Data type	decimal
Pattern	-?([1-9][0-9]* 0)\.[0-9]{2} 0
Example	212.12

Table 159

3.8.1.16 WTN VehOwnership

Attribute that contains vehicle ownership type.

Data type	string
Values	Enumeration, described in the table below.
Example	OWNER

Table 160

Following table shows the list of allowed values inside VehOwnership attribute.

Value	Description
OWNER	Issuer is owner of the vehicle.
THIRDPARTY	Third party is owner of the vehicle.

Table 161

3.8.1.17 WTN VehPlates

Plates of the vehicle that will carry the goods.

Data type	string
Length	30 characters
Pattern	[a-zA-Z0-9]+
Example	AA 000 AA

Table 162

3.8.1.18 WTN StartAddr

Starting address of the transportation.

Data type	string
Length	400 characters

Example	Street Name 888
---------	-----------------

Table 163

3.8.1.19 WTN StartCity

City where the transportation started in.

Data type	string
Length	200 characters
Example	Tirana

Table 164

3.8.1.20 WTN StartPoint

This attribute shows the type of start point.

Data type	string
Values	Enumeration, described in the table below.
Example	Warehouse

Table 165

Following table shows the list of allowed values inside StartPoint attribute.

Value	Description
WAREHOUSE	Warehouse.
EXHIBITION	Exhibition.
STORE	Store.
SALE	Point of sale.
ANOTHER	Another person's warehouse.
CUSTOMS	Customs warehouse.
OTHER	Other.

Table 166

3.8.1.21 WTN StartDateTime

Date and time the transportation of goods started.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+ -][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 167

3.8.1.22 WTN DestinAddr

Destination address of the transportation.

Data type	string
Length	400 characters
Example	Street Name 888

Table 168

3.8.1.23 WTN DestinCity

City where the transportation will end.

Data type	string
Length	200 characters
Example	Tirana

Table 169

3.8.1.24 WTN DestinPoint

This attribute shows the type of destination point.

Data type	string
Values	Enumeration, described in the table below.
Example	Warehouse

Table 170

Following table shows the list of allowed values inside DestinPoint attribute.

Value	Description
WAREHOUSE	Warehouse.
EXHIBITION	Exhibition.
STORE	Store.
SALE	Point of sale.
OTHER	Other.

Table 171

3.8.1.25 WTN DestinDateTime

Date and time the transportation of goods expected to arrive at destination.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+-][0-9]{2}:[0-9]{2} Z)
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 172

3.8.1.26 WTN IsGoodsFlammable

Is goods flammable or not.

Data type	boolean
Values	true, false
Example	true

Table 173

3.8.1.27 WTN IsEscortRequired

Is escort for transportation required or not.

Data type	boolean
Values	true, false

Example	true
---------	------

Table 174

3.8.1.28 WTN PackType

Type of packaging.

Data type	string
Length	50 characters
Example	Euro pallet

Table 175

3.8.1.29 WTN PackNum

Number of packs.

Data type	int
Constraint	Positive
Example	2

Table 176

3.8.1.30 WTN ItemsNum

Number of items of goods.

Data type	int
Constraint	Positive
Example	2

Table 177

3.8.1.31 WTN WTNIC

WTN identification code which is generated by the TCR of the issuer of the WTN. This is a unique code for every WTN. The code is formed by concatenating the fields, signing with issuer's private key and calculating MD5 hash. Further description can be found in the chapter 5.3.3.3.

Data type	string
Max length	32 characters
Pattern	[0-9a-fA-F]{32}
Example	C701FB4839E7D2C3D8DBC81BBAC06164 c701fb4839e7d2c3d8dbc81bbac06164

Table 178

3.8.1.32 WTN WTNICSignature

Signed WTN identification code concatenated parameters. Further description can be found in the chapter 5.3.3.2.

Data type	string
Max length	512 characters
Pattern	[0-9a-fA-F]{512}
Example	B2C218486302EC553EE1AB9124E1A14705742E870E8872EF34E63617AB252E189ACDF7A3E3F5C82061FFFF8AC2826A5588596A8807F648410899B6193F77F4BDCDFA 87553A62079A2EF9E6E6F0B8DA1038968D2FCB920B580EBF33ACEEDFEA0DAA78067F916ADC5D278CC237EFD53A6156EABAFBE98A8F3CE99E854818822FA20C0FF46 E5B3805264B8CD085F0A8A9BD503A1304E9202D7304FF93541FB7FAA4629EE0BD7ED566F610DCD047721AEAA828DFECA651087CDE5AF95C125793D4CD8E83B801D E171335A866D7E31F1473BF0C93EBFD994326C0FE97ACB8DA722F788EA27B8D9E15E8E7B6EF772AB7534060F2BCAF1C3E82645235C9D1857B0790C2

Table 179

3.8.1.33 WTN Issuer

XML element representing the issuer of the WTN.

3.8.1.34 WTN Issuer NUIS

NUIS of the WTN issuer.

Data type	string
Length	10 characters
Pattern	[a-zA-Z]{1}[0-9]{8}[a-zA-Z]{1}
Example	K72001008V

Table 180

3.8.1.35 WTN Issuer Name

Name of the WTN issuer.

Data type	string
Length	200 characters
Example	Name Surname

Table 181

3.8.1.36 WTN Issuer Address

Address of the WTN issuer.

Data type	string
Length	400 characters
Example	Plaza Tirana 1

Table 182

3.8.1.37 WTN Issuer Town

Town of the WTN issuer.

Data type	string
Length	200 characters
Example	Tirana

Table 183

3.8.1.38 WTN Carrier

XML element representing the carrier of the goods.

3.8.1.39 WTN Carrier IDNum

Carrier of the goods identification number.

Data type	string
Length	20 characters

Example	For NUIS: K72001008V For ID: I12345678Q
---------	--

Table 184

3.8.1.40 WTN Carrier IDType

Carrier of the goods identification number type.

Data type	string
Constraint	Enumeration, described in the table below.
Example	NUIS

Table 185

Enumeration values for the identification number type are listed in table below.

Value	Description
NUIS	NUIS number
ID	Personal ID number

Table 186

3.8.1.41 WTN Carrier Name

Name of the goods carrier.

Data type	string
Length	200 characters
Example	Name Surname

Table 187

3.8.1.42 WTN Carrier Address

Address of the goods carrier.

Data type	string
Length	400 characters
Example	Plaza Tirana 1

Table 188

3.8.1.43 WTN Carrier Town

Town of the goods carrier.

Data type	string
Length	200 characters
Example	Tirana

Table 189

3.8.1.44 WTN Items

XML element representing a list of items of the WTN.

3.8.1.45 WTN Items I (Item)

XML element representing a single item on the list of items.

3.8.1.46 WTN Items I N (Item Name)

Name of the item.

Data type	string
Max length	50 characters
Example	Coca-cola 1.5L

Table 190

3.8.1.47 WTN Items I C (Item Code)

Code of the item from the barcode or similar representation. It helps in identification of the product (item).

Data type	string
Max length	50 characters
Example	978020137962

Table 191

3.8.1.48 WTN Items I U (Item Unit of measure)

Unit of measure for specific item – piece, weight, length...

Data type	string
Max length	50 characters
Example	Kg

Table 192

3.8.1.49 WTN Items I Q (Item Quantity)

Amount or number (quantity) of item.

Data type	double
Pattern	-?([1-9][0-9]* 0)(\.[0-9]{1,3})?
Example	3.500 -0.375

Table 193

3.8.2 WAREHOUSE TRANSFER NOTE RESPONSE MESSAGE

Name	Field type	Occurrence [Min, Max]	Description
RegisterWtnResponse	Element	[1, 1]	Root XML element representing warehouse transfer note response message.
Id	Attribute	[1, 1]	Attribute used for signature creation and verification. Fixed value "Response".
Version	Attribute	[1,1]	Attribute used to specify compliance with XSD schema. For this version fixed value is "3".
Header	Element	[1, 1]	XML element representing generic message data about the response sent.
UUID	Attribute	[1, 1]	UUID generated by a CIS for every note response data message send to the TCR.
RequestUUID	Attribute	[1, 1]	UUID of the request message for which this response message was sent.
SendDateTime	Attribute	[1, 1]	Date and time of sending the note response data message from a CIS to the TCR.
FWTNIC	Element	[1, 1]	Fiscal warehouse transfer note identification code. CIS generated verification code that can be used to uniquely identify registered note.
Signature	Element	[1, 1]	XML element with signature.

Table 194

3.8.2.1 Header

XML element representing header of the response data message.

3.8.2.2 Header UUID

Element generated by the CIS for every message sent to the TCR. It uniquely identifies the message sent to the TCR. UUID should be constructed according to the RFC4122 version 4.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 195

3.8.2.3 Header RequestUUID

Element generated by the TCR and referenced by the CIS. It uniquely identifies the request message for which response message was sent to the TCR. UUID should be constructed according to the RFC4122 version 4.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 196

3.8.2.4 Header SendDateTime

Element represents date and time of sending the response message to the TCR. Date and time should be in ISO 8601 format.

Data type	dateTime
Pattern	[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+ -][0-9]{2}:[0-9]{2})Z
Example	2019-01-24T22:00:58+01:00 2019-01-24T22:00:58-01:00

Table 197

3.8.2.5 FWTNIC

Fiscal warehouse transfer note identification code. Element represents unique number generated by the CIS.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 198

3.8.2.6 Signature

XML element stores enveloped digital signature described in the chapter 5.3.1

3.8.3 MANDATORY CONTROLS

Mandatory controls shall be performed on received WTNs data messages in the CIP system in real time. When any of the critical controls return a failure, the WTN data message shall not be approved, and FWTNIC shall not be issued.

Upon identifying a critical error, CIS will return an error data message containing the error's numeric code and its text description (see chapter 3.8.6). When errors which the system can interpret as a cyber-attack are identified, the system does not send any response to the client (the TCR).

The mandatory controls include all the controls from chapter 3.1 and the following:

Control Name	Control Description (Error if)	Error code
Issuer doesn't exist	Issuer doesn't exist in RTP.	52
Issuer status invalid	Issuer is not active in the RTP.	55
Issue datetime invalid	<p>WTN.IssueDateTime is in the future.</p> <p>WTN.IssueDateTime is not equal to the Header.SendDateTime and Header.SubseqDelivType does not exist.</p> <p>WTN.IssueDateTime more than 2 days in the past from now and Header.SubseqDelivType equals to SERVICE or TECHNICALERROR.</p> <p>WTN.IssueDateTime more than 11 days in the past from now and Header.SubseqDelivType equals BOUNDBOOK.</p> <p>WTN.IssueDateTime is not in the current or previous month or is in the previous month but the send date is not less or equal to 10th of the current month and Header.SubseqDelivType equals NOINTERNET.</p>	11
Carrier filed missing	WTN.VehOwnership equals THIRDPARTY and WTN.Carrier is missing.	11

Table 199

3.8.4 ERROR MESSAGE

Error message is defined in chapter 3.8.6.

3.8.5 EXAMPLE XML

3.8.5.1 Request XML

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <RegisterWTNRequest xmlns="https://efiskalizimi.tatime.gov.al/FiscalizationService/schema"
      xmlns:ns2="http://www.w3.org/2000/09/xmldsig#" Id="Request" Version="3">
      <Header SendDateTime="2020-03-17T22:57:15+01:00" UUID="a8e6b3d0-f880-4a78-808b-e17bdfec7f18"/>
      <WTN BusinUnitCode="bb123bb123" DestinAddr="Destination address 1" DestinCity="Tirana" DestinDateTime="2020-03-17T22:57:15+01:00"
        DestinPoint="STORE" GroupOfGoods="FUEL" IsEscortRequired="false" IsGoodsFlammable="false" IssueDateTime="2020-03-17T22:57:15+01:00"
        OperatorCode="oo123oo123" SoftCode="ss123ss123" StartAddr="Start address 1" StartCity="Tirana" StartDateTime="2020-03-17T22:57:15+01:00"
        StartPoint="WAREHOUSE" Transaction="SALES" Type="WTN" VehOwnership="OWNER" VehPlates="12345678" WTNIC="9D12E86279B71122F0E1A24AAF550869"
        WTNICSignature="27E4E1F48BFD7D3871600202EA432D82FA059347F22546F0144465937B5FCBA6C73A07710868AD6BB193AF18960915C02964C8E787EBE569EB4373E514DECB
        47D1968031CBE7493FE076AFBF2D26EC4E116F7BF1ECD85CC962E476FF63A2BFF99EC73DB7CCB4F7C34BC113AA65B209549F38AB830704EA23BE88BCF4A69D508A217F87159C
        0DF6D0561A3B57811A18FB18E25EF002004CEC690075B6BD722DC86BC3D41C2E2CA1A7121237FC84CA621B213C4861942A9F2F88F6A63A99EDC2706EC14319FBB08658A972D86
        3691119001962156B636A698BE87E777E71D5C4752D97A49CBAF3326393D41D25A941D3BC181B13753089DCBF2A0A9567EA50D" WTNNum="1/2019" WTNOrdNum="1">
        <Issuer Address="Seller address" NUIS="L91806031N" Name="Seller name" Town="Seller town"/>
        <Items>
          <I C="501234567890" N="Item 1 name" Q="4.0" U="piece"/>
          <I C="501234567890" N="Item 2 name" Q="19.0" U="piece"/>
        </Items>
      </WTN>
      <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
        <SignedInfo>
          <CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
          <SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256"/>
          <Reference URI="#Request">
            <Transforms>
              <Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature"/>
              <Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
            </Transforms>
          </Reference>
        </SignedInfo>
      </Signature>
    </RegisterWTNRequest>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

```

        </Transforms>
        <DigestMethod Algorithm="http://www.w3.org/2001/04/xmldsig#sha256"/>
        <DigestValue>sLFwbS085PDS0.....tVmUa5a6iNQSnQw=</DigestValue>
    </Reference>
</SignedInfo>
<SignatureValue>WI0zBay7L1FQeZ.....qF9CTowgxFXVvXdrLIbuw==</SignatureValue>
<KeyInfo>
    <X509Data>
        <X509Certificate>MIIFCTCCAvGgAwIB.....Z0+ARxdWntdEJL70</X509Certificate>
    </X509Data>
</KeyInfo>
</Signature>
</RegisterWTNRequest>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

3.8.5.2 Response XML

```

<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <ns2:RegisterWTNResponse Id="Response" Version="3" xmlns:ns2="https://efiskalizimi.tatime.gov.al/FiscalizationService/schema"
    xmlns:ns3="http://www.w3.org/2000/09/xmldsig#">
      <ns2:Header RequestUUID="a8e6b3d0-f880-4a78-808b-e17bdfec7f18" SendDateTime="2020-03-17T23:06:12+01:00" UUID="7056b8c1-b65b-482e-
      88ac-00fe5c6ee58a"/>
      <ns2:FWTNIC>56aeb7c6-ebb6-496e-8b6a-b6f483546a7d</ns2:FWTNIC>
      <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
        <SignedInfo>
          <CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#">
          <SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256"/>
          <Reference URI="#Response">
            <Transforms>
              <Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature"/>
              <Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#">
            </Transforms>
            <DigestMethod Algorithm="http://www.w3.org/2001/04/xmldsig#sha256"/>
            <DigestValue>A6hoQC1LkYJPw.....1MPApX5jn8JHk=</DigestValue>
          </Reference>
        </SignedInfo>
        <SignatureValue>LvCJPrr9bjtpjFQWKEKme8tH.....N6fS7KK/1n1tEFi6LmvQ==</SignatureValue>
      <KeyInfo>
        <X509Data>
          <X509Certificate>MIIFRzCCBC+gAwIBAgIKQ3usFH.....D+GgzHcFwIaTGDHt6q1D0cjSY=</X509Certificate>
        </X509Data>
      </KeyInfo>
    </Signature>
  </ns2:RegisterWTNResponse>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

3.8.6 QR CODE GENERATION

Each WTN must contain a QR-code which has a URL inside. The URL leads to the web application “Invoice check” and displays information about the WTN if the WTN is successfully registered.

QR-code contains a URL with special query string which identifies the WTN. First part of the URL is fixed and contains the protocol, hostname and path followed by the query parameters.

Fixed part of the URL:

- Test environment:
 - <https://efiskalizimi-app-test.tatime.gov.al/invoice-check/#/wtn>
- Production environment:
 - <https://efiskalizimi-app.tatime.gov.al/invoice-check/#/wtn>

Query parameters:

Parameter name	Description	Sample value
wtnic	WTNIC (WTN identification number)	EA26D5BE7F45827026108F825A8A512B
tin	Taxpayer identification number (issuer’s TIN)	L91806031N
crtcd	Date and time when the WTN was created. Value is displayed in special format “yyyy-mm-	2019-09-26T13:50:13+01:00

	ddThh:mi:ss+/-zh:zm" where yyyy represents year, mm month, dd day of the month, T is fixed value, hh represents hours in 24-hours format, mi minutes, ss seconds, +/-zh:zm represents time zone.	
ord	WTN ordinal number	6
bu	Code of the business unit (premise)	bg517kw842
sw	Code of the software used to create WTN	gz434bv927

Table 200 - QR code URL query parameters

QR code must be created with at least M error correction level that guaranties that at least 15% of character can be restored.

3.8.6.1 QR code example

Sample data from Table 200 is only a sample and may not lead to an actual fiscalized WTN.

Example URL encoded in a QR-code with sample values from the Table 200 is:

<https://efiskalizimi-app-test.tatime.gov.al/invoice-check/#/wtn?wtnc=EA26D5BE7F45827026108F825A8A512B&tin=L91806031N&crtid=2019-09-26T13:50:13+01:00&ord=6&bu=bg517kw842&sw=gz434bv927>

Example QR-code which is formed from the URL above is:



Figure 9 - QR code sample

3.9 ERROR MESSAGES

In case of an error in the process of the request message, an error message is sent as a reply by CIS. Error messages share the same general format which is based on SOAP fault message version 1.1 and extended with the code XML element which represents numeric error code.

3.9.1 XML FORMAT

Name	Occurrence [Min, Max]	Description
fault	[1, 1]	XML element representing error message.
faultCode	[1, 1]	XML element representing class of errors.
faultString	[1, 1]	XML element where the error explanation is written.
detail	[1, 1]	XML element that carries error messages. It can contain multiple child elements.
responseUUID	[1, 1]	XML element that specifies UUID of this error response.
requestUUID	[0, 1]	XML element that specifies UUID of the request for which error occurred if available.
code	[1, 1]	XML element that describes the error with a numeric code. List of codes can be found in the chapter 3.9.3.

Table 201

3.9.1.1 Header

This is an XML root element representing the header of the error message.

3.9.1.2 Header UUID

This is an attribute that uniquely describes the message and gives it the unique identification.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 202

3.9.1.3 Fault

This is an XML element that will appear only if error happens.

3.9.1.4 FaultCode

This is an XML element that represents origin of error that occurred.

Data type	string
Constraint	Enumeration, described in the table below.
Example	Client

Table 203

Enumeration values for the method of payment are listed in table below.

Value	Description
Client	Received message was incorrectly formed or contained incorrect information.
Server	There was a problem with the server, so the message could not proceed.

Table 204

3.9.1.5 FaultString

This is an XML element that contains textual explanation for error that occurred.

Data type	string
Length	Undefined
Example	Validation failed with digest wrong.

Table 205

3.9.1.6 Detail

This is an XML element that carries numeric error code.

3.9.1.7 Code

This is a Detail's child element, that describes the numeric error code. Numeric error codes are listed in the chapter 3.9.2.

Data type	int
Length	3
Pattern	[1-9][0-9]{0,2}
Example	21

Table 206

3.9.1.8 ResponseUUID

This is a Detail's child element, that specifies UUID of this error message.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 207

3.9.1.9 RequestUUID

This is a Detail's child element, that specifies UUID of the request message that generated an error if available.

Data type	string
Length	36 characters
Pattern	[0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[1-5][0-9a-fA-F]{3}-[89abAB][0-9a-fA-F]{3}-[0-9a-fA-F]{12}
Example	58e0a7d7-eebc-41d8-9669-0800200c9a66 58E0A7D7-EEBC-41D8-9669-0800200C9A66

Table 208

3.9.2 ERROR CODES

Following table lists the error codes that a fiscalization service can return to the invoice issuer. It's not an exhaustive list.

Error code	Error origin	Error description
0	Client	Exception occurred while extracting received XML message during size check.
1	Client	Received XML message exceed allowed size.
2	Client	Client time differs from a server's time by more than allowed time in minutes
10	Client	Exception occurred while extracting received XML message during XML validation against the XSD.
11	Client	Received XML message failed XSD validation.
20	Client	Exception occurred while extracting received XML message during signature check.
21	Client	Received XML message missing Signature XML element.
22	Client	Received XML message missing Request XML element.
23	Client	Exception occurred while extracting Signature XML element during signature check.
24	Client	Provided more than one Signature XML element.
25	Client	Signed wrong XML element.
26	Client	Wrong signature method specified.
27	Client	Wrong canonicalization method specified.
28	Client	Wrong digest method specified.
29	Client	Cryptographic signature wrong.
30	Client	Digest calculation wrong.
31	Client	Overall signature wrong.
32	Client	There are more keyInfo elements than needed.
33	Client	Certificate provided is not of X509 type of certificate.
34	Client	Certificate provided is not valid.
35	Client	Certificate is not issued by NAIS.
36	Client	Certificate has expired.
37	Client	Compare the NIPT in XML with the NIPT in the certificate
38	Client	Certificate status revoked
39	Client	Certificate status unknown
40	Client	Invoice amount too large for cash invoice
41	Client	Business unit code doesn't reference active business unit (premise) of the taxpayer.
42	Client	Software code doesn't references active software.
43	Client	Maintainer code doesn't references active maintainer.
44	Client	Issuer VAT status doesn't correspond to the IsIssuerInVAT attribute.
45	Client	ValidFrom cannot be in the past.

46	Client	ValidTo cannot be in the past.
47	Client	ValidTo cannot be before ValidFrom.
48	Client	Active TCR cannot be updated.
49	Client	Change date and time differences from CISOs time more than allowed time in minutes.
50	Client	Cash amount cannot be negative for INITIAL operation.
51	Client	Cash amount cannot be zero for WITHDRAW or DEPOSIT operation.
52	Client	Taxpayer doesn't exist in the Registry of taxpayers.
53	Client	TCR code doesn't reference registered or active TCR or the TCR doesn't belongs to the referenced issuer.
54	Client	Issuer ID type must be NUIS.
55	Client	Taxpayer is not active in the Registry of taxpayers.
56	Client	Cash deposit with operation INITIAL already registered for a current day.
57	Client	Deactivated TCR cannot be modified.
9xx	Server	Internal server exceptions.

Table 209

3.9.3 EXAMPLE XML

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <SOAP-ENV:Fault>
      <faultcode>SOAP-ENV:CLIENT</faultcode>
      <faultstring xml:lang="en">Validation failed with digest wrong.</faultstring>
      <detail>
        <code>30</code>
        <requestUUID>78dde160-2b33-40e4-98fa-f6a2c34475a3</requestUUID>
        <responseUUID>9416dcca-499a-4724-933d-40d115ea4fc7</responseUUID>
      </detail>
    </SOAP-ENV:Fault>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```


4. Data Export And Upload

When the taxpayer is operating in the area where there is no internet connection, he can use the alternative way of invoice registration. Invoice registration requests must be exported into files in a special format. These files can then be uploaded on Central invoice platform which will register invoices. Responses from the registration service will be generated and the taxpayer will download files with responses and bring them back to the TCR for import.

See process diagram.

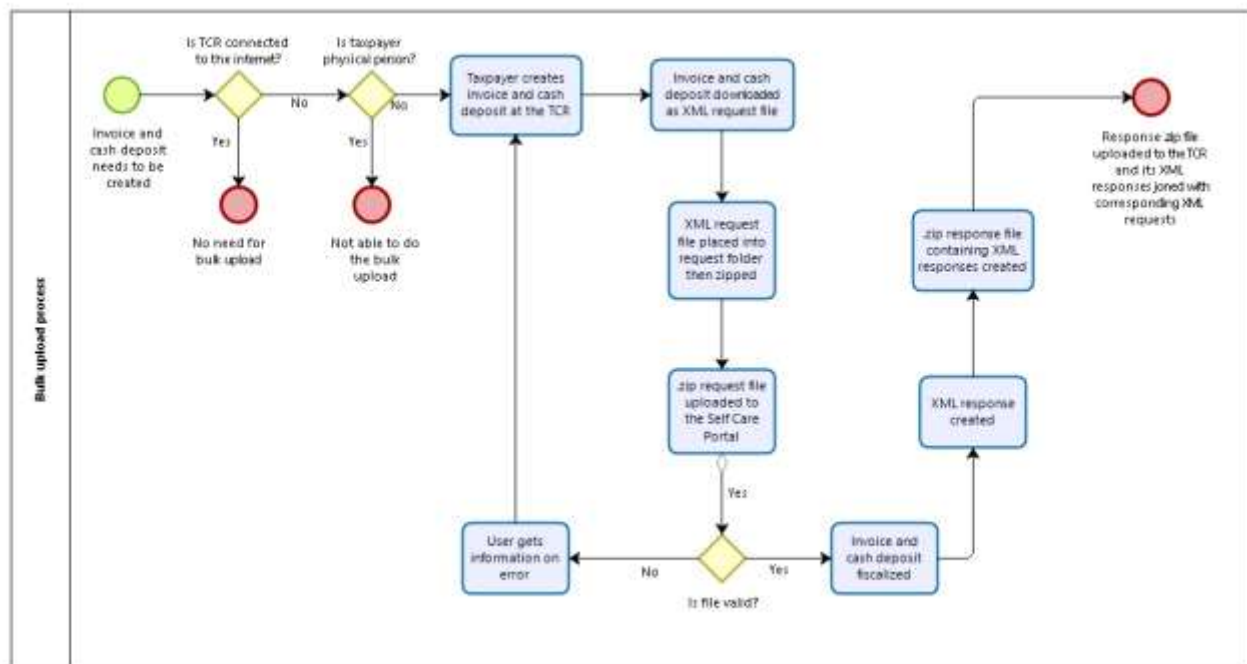


Table 210 - Upload process diagram

Instead of using the Central invoice platform web application, the taxpayer can bring the files on USB flash drive to the local Tax administration office where the officer will do the same process as in the Central invoice platform.

What taxpayer does in that case is that he uses TCR to create a file for each of those invoices or cash deposits, and files should be named in format described in table below.

When those .xml files (WS messages) are created, they will be created in the way that only main part of the XML, the one that contains data, will be preserved. It will omit WS header and WS envelope from the message. The file must contain only content of envelope body element. Content of the body element must not be altered to preserve valid signature. To allow time difference between the server and a client, a header part of the message from the body must contain SubseqDelivType attribute.

Then each of those files should be saved in a zipped (archived) folder, named as described in table. Size of the ZIP archive should not exceed 15 MB.

After that the taxpayer transfers that archive to the USB flash drive or other transferable media and takes it to the place where there is an active internet connection. After logging in to Central invoice platform using the certificate, taxpayer imports ZIP archive with invoices represented as XML files. Central invoice platform will extract XML files from the ZIP archive, form a web service message request and send it to fiscalization service. The fiscalization service will make a response, which the Central invoice platform will transform into XML file by extracting the content of SOAP envelope body element.

XML file representing the response will be named `<yyyyMMddHHmmSS>_<IIC>_response.xml`. XML files will be compressed in a ZIP archive with corresponding name `<yyyyMMddHHmmSS>_response.zip` where `<yyyyMMddHHmmSS>` is the same as in the ZIP archive with request XML files. That means that each request in XML file named `<yyyyMMddHHmmSS>_<IIC>_request.xml` or `<yyyyMMddHHmmSS>_deposit_request.xml` will be paired with response in XML file `<yyyyMMddHHmmSS>_<IIC>_response.xml` or `<yyyyMMddHHmmSS>_deposit_response.xml`, and each archive containing XML request named `<yyyyMMddHHmmSS>_request.zip` will be paired with archive named `<yyyyMMddHHmmSS>_response.zip` containing XML responses.

Request ZIP archive file must contain all the request XML files in the root folder. For example:

- 20200921130159_request.zip
 - 20200921130159_deposit_request.xml
 - 20200921130200_96B3948368B39A0F841FAB88A34DE961_request.xml
 - 20200921130201_AD7A3A67DE12043FC1A022B9DFCBC8C1_request.xml
 - 20200921130202_9062559C02462241933282493EC4077E_request.xml

Also, response ZIP archive file will contain all the response XML files in the root folder. For example:

- 20200921130159_response.zip
 - 20200921130159_deposit_response.xml
 - 20200921130200_96B3948368B39A0F841FAB88A34DE961_response.xml
 - 20200921130201_AD7A3A67DE12043FC1A022B9DFCBC8C1_response.xml
 - 20200921130202_9062559C02462241933282493EC4077E_response.xml

This process will use following file naming conventions:

File pattern	Description
<code><yyyyMMddHHmmSS>_request.zip</code>	ZIP archive file containing all incoming request XML files produced by TCR.
<code><yyyyMMddHHmmSS>_<IIC>_request.xml</code>	XML file containing one RegisterInvoiceRequest from chapter 3.7.1.
<code><yyyyMMddHHmmSS>_deposit_request.xml</code>	XML file containing one RegisterCashDepositRequest from chapter 3.6.1.
<code><yyyyMMddHHmmSS>_response.zip</code>	ZIP archive file containing all outgoing response XML files produced by CIS after import.
<code><yyyyMMddHHmmSS>_<IIC>_response.xml</code>	XML file containing one RegisterInvoiceResponse from chapter 3.7.2.
<code><yyyyMMddHHmmSS>_deposit_response.xml</code>	XML file containing one RegisterCashDepositResponse from chapter 3.6.2.

Table 211

If there are errors, they will also be stored inside XML responses and the Central Invoice Platform will notify the user about it.

4.1 XML EXAMPLE

As mentioned in previous chapter, when there is upload of the invoices, the XML file will be created in a way that only main part of it – the content of the body (without SOAP body element) - the one containing the message – will be preserved, while other parts will be omitted. Header part of the message from the body must contain the SubseqDelivType attribute to allow time difference between the server and a client. Here is the example of a valid request (SOAP envelope elements are removed and, in the example, they are strikethrough):

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
<SOAP-ENV:Header/>
<SOAP-ENV:Body>
  <RegisterInvoiceRequest xmlns="https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema"
    xmlns:ns2="http://www.w3.org/2000/09/xmldsig#" Id="Request" Version="3">
```

```

<Header SendDateTime="2019-12-05T14:30:13+01:00" UUID="8d216f9a-55bb-445a-be32-30137f11b964"
SubseqDelivType="NOINTERNET"/>
<Invoice BusinUnitCode="bb123bb123" IssueDateTime="2019-12-05T14:30:13+01:00" IIC="4AD5A215BEAF85B0416235736A6DACAB"
IICSignature="83D728C810BA04C430BE64CE98612B0256C0FE618C167F28BF62A0C0CB38C51824F152AB00510AE076508E53ACE4F877D25D51C7830F043E09B
B1500D3A0AEA233ECC6175A45FE58CBF53E517FD9EA1D06CBABC055EE6B430A16560C96D3A27720A6E5C9BA5C8D18A7AE5C2A7F1D8E46B293F56D32847FCEE199
D2AFDC6E5BC1164BA974A6E29D6F40FBD8C51D40A99BC97DD6DB2AE9EC0582F2E74E9C7841AC5A854DE92B1D778A809CACCBBEF4DC325C852487BCF035AA2D5459
4DC6BDD859E250782CCDD77CC89EE80A2FE1030AAAD615DA5D728322F8590D9F56E6DDE5975A738F304F56BB832996763624B72C77E97881D9C647B50709F20AFB
FA0602" InvNum="1/2019/cc123cc123" InvOrdNum="1" IsIssuerInVAT="true" IsReverseCharge="false" IsSimplifiedInv="false"
OperatorCode="oo123oo123" SoftCode="ss123ss123" TCRCode="cc123cc123" TotPrice="20.00" TotPriceWoVAT="16.00" TotVATAmt="4.00"
TypeOfInv="CASH"/>
<PayMethods>
<PayMethod Amt="20.00" Type="BANKNOTE"/>
</PayMethods>
<Seller Address="Seller address" Country="ALB" IDNum="L91806031N" IDType="NUIS" Name="Seller name" Town="Seller
town"/>
<Items>
<I C="501234567890" N="Item name" PA="20.00" PB="16.00" Q="1.0" R="0" RR="true" U="piece" UPB="16.00"
UPA="20.00" VA="4.00" VR="25.00"/>
</Items>
<SameTaxes>
<SameTax NumOfItems="1" PriceBefVAT="16.00" VATAmt="4.00" VATRate="25.00"/>
</SameTaxes>
</Invoice>
<Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
<SignedInfo>
<CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
<SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256"/>
<Reference URI="#Request">
<Transforms>
<Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature"/>
<Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
</Transforms>
<DigestMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#sha256"/>
<DigestValue>ECWby0FKaQ6.....m8BPjyk6g=</DigestValue>
</Reference>
</SignedInfo>
<SignatureValue>LHFUG3xNi.....tjpeYNw=</SignatureValue>
<KeyInfo>
<X509Data>
<X509Certificate>MIIFYDCC.....Pifz0U1KJAanmqN3</X509Certificate>
</X509Data>
</KeyInfo>
</Signature>
</RegisterInvoiceRequest>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Table 212 - RegisterInvoiceRequest sample content

```

<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
<SOAP-ENV:Header/>
<SOAP-ENV:Body>
<RegisterCashDepositRequest xmlns="https://XXXurl/FiscalizationService/schema"
xmlns:ns2="http://www.w3.org/2000/09/xmldsig#" Id="Request" Version="3">
<Header SubseqDelivType="NOINTERNET" SendDateTime="2020-07-07T13:57:48+02:00" UUID="f09fd967-ac7e-4f23-8fc4-
c72bbca27862"/>
<CashDeposit CashAmt="2000.00" ChangeDateTime="2020-07-07T13:57:48+02:00" IssuerNUIS="X12345678X" Operation="INITIAL"
TCRCode="np830ym389"/>
<Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
<SignedInfo>
<CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
<SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256"/>
<Reference URI="#Request">
<Transforms>
<Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature"/>
<Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
</Transforms>
<DigestMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#sha256"/>
<DigestValue>gYmnHdimKvWgEVySr.....6tZ2pm8BaBbIw4</DigestValue>
</Reference>
</SignedInfo>
<SignatureValue>rx5QLeKSqPdtEpvrld/AvNUhraRBH.....4cNREPde1HY9s8oTDH+ds/dsEEZXQ==</SignatureValue>
<KeyInfo>
<X509Data>
<X509Certificate>MIIFEDCCAvigAwIBAgICEBgwDQ.....ZQKFzZnNx+QLBYOVQ==</X509Certificate>
</X509Data>
</KeyInfo>
</Signature>
</RegisterCashDepositRequest>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Table 213 - RegisterCashDepositRequest sample content

Here is the example of a valid response (SOAP envelope elements are removed and, in the example, they are strikethrough):

```

<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
<SOAP-ENV:Header/>
<SOAP-ENV:Body>
<ns2:RegisterInvoiceResponse Id="Response" Version="3"
xmlns:ns2="https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema" xmlns:ns3="http://www.w3.org/2000/09/xmldsig#">
<ns2:Header RequestUUID="8d216f9a-55bb-445a-be32-30137f11b964" SendDateTime="2019-12-05T14:30:15+01:00"
UUID="f8bcb5ae-59fb-41ac-9011-f4db86bbce26"/>
<ns2:FIC>a592e7ec-9517-4f02-8d54-ac965f679a8c</ns2:FIC>
<Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
<SignedInfo>
<CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>

```

```

        <SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256"/>
        <Reference URI="#Response">
            <Transforms>
                <Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature"/>
                <Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
            </Transforms>
            <DigestMethod Algorithm="http://www.w3.org/2001/04/xmenc#sha256"/>
            <DigestValue>WYXOkHAd.....SLOIbwDdHCQk=</DigestValue>
        </Reference>
    </SignedInfo>
    <SignatureValue>BnrlbB8Ic.....bfAjdVUPA==</SignatureValue>
    <KeyInfo>
        <X509Data>
            <X509Certificate>MIIFRjCCB.....gpNT2r23YQ==</X509Certificate>
        </X509Data>
    </KeyInfo>
</Signature>
</ns2:RegisterInvoiceResponse>
</SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Table 214 - RegisterInvoiceResponse sample content

```

<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <ns2:RegisterCashDepositResponse Id="Response" Version="3"
xmlns:ns2="https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema" xmlns:ns3="http://www.w3.org/2000/09/xmldsig#">
      <ns2:Header RequestUUID="8d216f9a-55bb-445a-be32-30137f11b964" SendDateTime="2019-12-05T14:30:15+01:00"
      UUID="f8bcb5ae-59fb-41ac-9011-f4db86bbce26"/>
      <ns2:FCDC>a592e7ec-9517-4f02-8d54-ac965f679a8c</ns2:FCDC>
      <Signature xmlns="http://www.w3.org/2000/09/xmldsig#">
        <SignedInfo>
          <CanonicalizationMethod Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
          <SignatureMethod Algorithm="http://www.w3.org/2001/04/xmldsig-more#rsa-sha256"/>
          <Reference URI="#Response">
            <Transforms>
              <Transform Algorithm="http://www.w3.org/2000/09/xmldsig#enveloped-signature"/>
              <Transform Algorithm="http://www.w3.org/2001/10/xml-exc-c14n#"/>
            </Transforms>
            <DigestMethod Algorithm="http://www.w3.org/2001/04/xmenc#sha256"/>
            <DigestValue>WYXOkHAd.....SLOIbwDdHCQk=</DigestValue>
          </Reference>
        </SignedInfo>
        <SignatureValue>BnrlbB8Ic.....bfAjdVUPA==</SignatureValue>
        <KeyInfo>
          <X509Data>
            <X509Certificate>MIIFRjCCB.....gpNT2r23YQ==</X509Certificate>
          </X509Data>
        </KeyInfo>
      </Signature>
    </ns2:RegisterCashDepositResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Table 215 - RegisterCashDepositResponse sample content

Here is the example of an error response:

```

<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <SOAP-ENV:Fault>
      <faultcode>SOAP-ENV:CLIENT</faultcode>
      <faultstring xml:lang="en">Validation failed with digest wrong.</faultstring>
      <detail>
        <code>30</code>
        <requestUUID>8d216f9a-55bb-445a-be32-30137f11b964</requestUUID>
        <responseUUID>9416dcca-499a-4724-933d-40d115ea4fc7</responseUUID>
      </detail>
    </SOAP-ENV:Fault>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Table 216 - SoapFault sample content

5. Security

Following chapter describes security principles used by fiscalization service and parties that communicate with it.

5.1 DIGITAL CERTIFICATES

For the purpose of the securing fiscalization service and identifying clients that consumes the service, three types of certificates shall be issued:

- Certificate for transport security with common name *.tatime.gov.al issued to the service.
Used to secure transport between the service and an issuer.
Issued by public CA different from NAIS CA.
- Certificate for message security issued to the service.
Used to digitally sign response data messages.
Issued by NAIS CA.
- Certificate for message security issued to an issuer.
Used to digitally sign request data messages and IIC data elements.
Issued by NAIS CA.

A digital certificate for fiscalization purposes is issued by the competent authority for issuing digital certificates (CAs). In the case of the Republic of Albania it is NAIS. A detailed description of the submission of a request for issuing a digital certificate and obtaining a certificate is (or will have to be) defined in the instructions of NAIS and is not the subject of this documentation. Certificates issued by NAIS will have following certificate authorities:

- NAIS Root Certification Authority (Self signed certificate)
 - NAIS Certification Authority
 - NAIS Class 3 Certification Authority

5.2 TRANSPORT SECURITY

To ensure data security and integrity of the communication between the issuer and the service, service is using One-way TLS, specifically protocol version TLS V1.2. Service presents a certificate to client issued by the public CA different from NAIS CA, and with common name *.tatime.gov.al.

5.3 MESSAGE SECURITY

To ensure unambiguous identification of the taxpayer and to provide unchanged content, each request data message and IIC data element is digitally signed with a private key that is unique pair with the valid taxpayer certificate. Response data messages from the CIS are digitally signed with a private key that is unique pair with the valid CIS certificate.

In most cases, the private key used to digitally sign request data message and IIC data is the same. An exception under this rule is possible if the certificate used at the time of initial creation of the request is no longer valid at the time of resending the request. In that case, a private key from valid corresponding certificate must be used to digitally sign request data message, but not the IIC data element, which remains the same.

Request and response data messages are digitally signed according to the XML Signature Syntax and Processing standard edition 1.1 available at <https://www.w3.org/TR/xmlsig-core/>. Additional description is available in the chapter 5.3.1.

IIC data element is created and digitally signed according to the custom cryptographic algorithm described in the chapter 5.3.3.

5.3.1 REQUEST AND RESPONSE DATA MESSAGE SIGNING

Every request and response data message described in the chapter 3, must contain signature XML element. That element is generated according to XML Signature Syntax and Processing standard edition 1.1 available at <https://www.w3.org/TR/xmldsig-core/>.

Element to signed is a first and only element inside soap envelope body XML element, with Id equals to Request or Response, depending on the message direction.

XML digital signature element is created with following options:

- Signature type: Enveloped, <http://www.w3.org/2000/09/xmldsig#enveloped-signature>
- Canonicalization method: C14 Exclusive, <http://www.w3.org/2001/10/xml-exc-c14n#>
- Digest method: SHA256, <http://www.w3.org/2001/04/xmldsig-more#sha256>
- Signing method: RSA SHA256, <http://www.w3.org/2001/04/xmldsig-more#rsa-sha256>

5.3.2 RESPONSE DATA MESSAGE SIGNATURE VERIFICATION

To verify that a response is created by fiscalization service. TCR should check that signature is valid. That certificate provided inside response message is issued by AKSHI, by verifying certificate chain described in the chapter 5.1. And that certificate is issued to fiscalization service by checking that certificate contains CN field with value "GDT eFiskalizimi" inside DN field.

5.3.3 IIC AND WTNIC DATA ELEMENT

IIC, Invoice Identification Code and WTNIC, WTN Identification Code, is an alphanumeric security code generated by the issuer which uniquely matches issued invoice or WTN with an issuer. It is generated by concatenating specific parameters of the invoice or WTN and signed with a private key of the issuer.

IIC and WTNIC has two purposes:

1. To protect issuer from malicious third party because only the issuer that generated IIC or WTNIC can regenerate it by supplying the algorithm with the same parameters and using the same private key.
2. To verify that issued invoice and WTN is registered in the CIS.

At the tax administration's request, the taxpayer, based on the same input parameters, must create an IIC or WTNIC equal to that of the invoice or WTN.

IIC is generated using the following algorithm steps:

1. Concatenate parameters
2. Calculate digital signature with SHA256, RSA and RSASSA-PKCS-v1_5 padding
3. Calculate digest

5.3.3.1 Concatenate parameters

IIC is generated by concatenating following parameters of the invoice:

- Issuer NUIS (Chapter 3.7.1.57)
- Date and time created (Chapter 3.7.1.9)
- Invoice number (Chapter 3.7.1.11)
- Business unit code (Chapter 3.7.1.22)
- TCR code (Chapter 3.7.1.13)
- Software code (Chapter 3.7.1.23)
- Total price (Chapter 3.7.1.20)

WTNIC is generated by concatenating following parameters of the invoice:

- Issuer NUIS (Chapter 3.8.1.34)
- Date and time created (Chapter 3.8.1.9)
- WTN number (Chapter 3.8.1.13)
- Business unit code (Chapter 3.8.1.11)
- Software code (Chapter 3.8.1.12)

Before concatenation, all parameters must be converted into UTF-8 encoding. Parameters are concatenated with pipe character UTF-8 with decimal code 124.

For example, for parameters:

- Issuer NUIS: I12345678I
- Date and time created: 2019-06-12T17:05:43+02:00
- Invoice number: 9952
- Business unit code: bb123bb123
- TCR code: cc123cc123
- Software code: ss123ss123
- Total price: 99.01

Resulted concatenated value is:

I12345678I|2019-06-12T17:05:43+02:00|9952|bb123bb123|cc123cc123|ss123ss123|99.01

5.3.3.2 Calculate digital signature

After the concatenation, resulting value is hashed with SHA256 algorithm and then signed with RSA algorithm and issuer's private key.

For example, for values:

- Concatenated value:
I12345678I|2019-06-12T17:05:43+02:00|9952|bb123bb123|cc123cc123|ss123ss123|99.01
- PEM encoded private key:

```
-----BEGIN RSA PRIVATE KEY-----
MIIEpAIBAAKCAQEA6zOR5ItNYHJNVmx1jZtd/KQUyGIZbnIJ8IWqcEesktRV5FF
HviQZsx2DpyeVQTu/Kel9Xh+Z6OZ6t5sADzfYnkWCrSb0FhT+01m2PIHaIUZhVtc
ppn0gxNWfgzW4sTvTyrYk601Kxymx/rck/WRQB1mp68au8mgGMzGukHfL7Wk4jO
U5VD3H1StBx1MjVw+soN5GUL/rwGaYun6Zsn9aYYEujb0hKvKDY8n0tNIS69dqqd
piZakvdh9sYdF1ElgXZhdMzSGURMm6OcePUPZO/HFKq7R1K6vIxXVI6l906tWt+G
uhul8e0x2VTwbTdpwG4FpdfUTqUDK6cswH0hTQIDAQABAoIBAQCqBWJuUqDBmn76
ULMMlYZwjfAUFPkmdikRTIVzew4El tubMIFF7Sr9lMm2sFLoZKOZ8lr0wqalpqcq
GFT8KwTU04SWDUIC7wbuf7pcE0F1tdmIBE5KhLozUnRQtFlWHkRb9z40I+Zf3ttG
W0mpHbtr/hTqHhN30j2wD7+MfvemPbcAvu9JLCYUzUZ06qxUwAjyFgsW7YyLa0a
qFB0Q0Yc6RsLvoSFXW0M5ghdtgoZvl+ayt4fgz1L3FjAMuXoLEX/778VA92/NZ0Q
mzQdKTT6B4Pm5s8XrY90hLlsYqKuyR/aoSHC/anSLw0yJ/5Gis2gmCwo3a7+PEYy
LUN7C0yFAoGBAPhgyufTkDod5PqG/SCEE2i6pjK0ZnuIUu9f2cmhxnvYChlig2wk
oDWUSGuXwItNF+X7j3XoZz8FNJcriK7KP2UPDOWP0ZvxZgZEcmwut27x1vVjzjCG
sl0w5ff0363hhtX35Jq2lVZGbN1LpIoEZgCeS/nBs+9DcRjDoXlikWfHAoGBAPJr
qSWLVO3gIG1wikXBWCYZUTSzs06NWfxcWPHKTnKvR0ifBTK23zuZ6gg1uNqLz/Ae
64ZwssMoIViYXE01XMPP8io4QidyVED2n70pjrVcUVYyr9IwKmcHmNBfKfMof05f
NV29P1Am1Jqv2EQi5jE/BbBu9kLifs2YyGBAn/ZLAoGAVsLsqciZAVVCAFWZJHue
gA37NK5eQja7qcyUuj9dozxIVNe5ytP8dtrmdVccNkzm1TqLwYc+UaBS35+gb1ZN
0NJyEdqsQMORdo0AX1PuVb369ds4UnEq6yzClgmUTxwhyqp+W6D+B5YwPx1GT8P7
kam6JnOIIEK9xgXIaStmBU8CgYB6RwXVszcOmYuhyC9mygSNix2j6LNpUJFAMtCG
-----
```

```
fZYeRBMobvWvRADLznH21Bgu3HDxXJdOg9AXkk1kbZSTOURmXKB43VG5Ffke5t3i
C3E5V6yLPxvieHsa9B5hlG4BrB6yyGFhvBCQfFWnBOWgUL4tvu0+tmvCRI04G7J
5i8JiwKBgQCQHTfRrGaEsq1BG7zPOQSqo9q5cxL8WzYd0sTs3FDcwCtHqxBEQ3rr
O/l+HvRa+y6ZEH6q4pREewTIymfv9tmGxVe3f8zrKGR51itvN6OnZuWJdq57Y1lN
J1sdpMxTtxQQmexsADif+QByCvdeFKE5C3veMLdgS5I6HTMN9k5laA==
-----END RSA PRIVATE KEY-----
```

Resulting signature value is:

```
404ADDB017B2DE49B0A51340A991130E670F08BC2BE854EEAAE9C3F41A2C98E1D70545690F0EFBD13511A38DB1E3
6E086DC253C3519E7DAF896A418BFAFCCE9836B0759B2E84713B25C39C040E35608AC85141A65D623454BAF4D0E04
D69A8D77505879C1DB9552542309A110B8CB2B9885C2236C3C6D65E695DFA4CA7D6258BD9EB0749A9EE09DA237C
4E1B8EE39C3CAD3E32A21F807DA0908192DADA3F9D55C4FEB3C100F97D5AA81CFE157E1A90059111E6DCD2F2AD3D
B9AAA202D084144E60ADED38988C384012967EF47B548135804EF2F4542DD0971E11AA392F048836D1C7DF9014F50
7B79258FA9B43AA14E32196D6127FD8154C24CE0CB374677D20
```

5.3.3.3 Calculate digest

After the signing, resulting value is hashed with a MD5 algorithm.

For example, for a value:

- Signature value:
404ADDB017B2DE49B0A51340A991130E670F08BC2BE854EEAAE9C3F41A2C98E1D70545690F0EFBD13511A38DB1E36E086DC253C3519E7DAF896A418BFAFCCE9836B0759B2E84713B25C39C040E35608AC85141A65D623454BAF4D0E04D69A8D77505879C1DB9552542309A110B8CB2B9885C2236C3C6D65E695DFA4CA7D6258BD9EB0749A9EE09DA237C4E1B8EE39C3CAD3E32A21F807DA0908192DADA3F9D55C4FEB3C100F97D5AA81CFE157E1A90059111E6DCD2F2AD3DB9AAA202D084144E60ADED38988C384012967EF47B548135804EF2F4542DD0971E11AA392F048836D1C7DF9014F507B79258FA9B43AA14E32196D6127FD8154C24CE0CB374677D20

MD5 digest value is: D04C13B4063D63A13B5D822A90178A7C

6. ANNEX - Code examples

This chapter covers the code examples for specific actions.

6.1 IIC GENERATION CODE

6.1.1 JAVA EXAMPLE

This is the example for the generation of the IIC in Java language. Variables are hardcoded as this is just an example.

```
import java.io.FileInputStream;
import java.security.*;

import javax.xml.bind.DatatypeConverter;

public class SampleGenerateIIC {

    private static final String KEYSTORE_LOCATION = "***.p12";
    private static final String KEYSTORE_TYPE = "PKCS12";
    private static final String KEYSTORE_PASS = "***";
    private static final String KEYSTORE_KEY_ALIAS = "***";

    public static void main(String[] args) {

        String iicInput = "";

        // issuerNuis
        iicInput += "I12345678I";
        // dateTimeCreated
        iicInput += "|2019-06-12T17:05:43+02:00";
        // invoiceNumber
        iicInput += "|9952";
        // busiUnitCode
        iicInput += "|bb123bb123";
        // tcrCode
        iicInput += "|cc123cc123";
        // softCode
        iicInput += "|ss123ss123";
        // totalPrice
        iicInput += "|99.01";

        try (FileInputStream fileInputStream = new FileInputStream(KEYSTORE_LOCATION)) {
            // Load a private from a key store
            KeyStore keyStore = KeyStore.getInstance(KEYSTORE_TYPE);
            keyStore.load(fileInputStream, KEYSTORE_PASS.toCharArray());
            Key privateKey = keyStore.getKey(KEYSTORE_KEY_ALIAS, KEYSTORE_PASS.toCharArray());

            // Create IIC signature according to RSASSA-PKCS-v1_5
            Signature signature = Signature.getInstance("SHA256withRSA");
            signature.initSign((PrivateKey)privateKey);
            signature.update(iicInput.getBytes());
            byte[] iicSignature = signature.sign();
            String iicSignatureString = DatatypeConverter.printHexBinary(iicSignature).toUpperCase();
            System.out.println ("The IIC signature is: " + iicSignatureString);

            // Hash IIC signature with MD5 to create IIC
            MessageDigest md = MessageDigest.getInstance("MD5");
            byte[] iic = md.digest(iicSignature);
            String iicString = DatatypeConverter.printHexBinary(iic).toUpperCase();
            System.out.println ("The IIC is: " + iicString);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
}
```

6.1.2 C# EXAMPLE

This is the example for the generation of the IIC in C# language. Variables are hardcoded as this is just an example.

```
using System;
using System.Security.Cryptography;
using System.Security.Cryptography.X509Certificates;
using System.Text;

namespace FiscalizationSigningUtilityDotNet
{
    class SampleGenerateIIC
    {
        private const String KEYSTORE_LOCATION = "****.p12";
        private const String KEYSTORE_PASS = "****";

        public static void Main(string[] args)
        {
            String iicInput = "";

            // issuerNuis
            iicInput += "I12345678I";
            // dateTimeCreated
            iicInput += "|2019-06-12T17:05:43+02:00";
            // invoiceNumber
            iicInput += "|9952";
            // busiUnitCode
            iicInput += "|bb123bb123";
            // tcrCode
            iicInput += "|cc123cc123";
            // softCode
            iicInput += "|ss123ss123";
            // totalPrice
            iicInput += "|99.01";

            using (X509Certificate2 keyStore = new X509Certificate2(KEYSTORE_LOCATION, KEYSTORE_PASS))
            {
                try
                {
                    // Load a private from a key store
                    RSA privateKey = keyStore.GetRSAPrivateKey();

                    // Create IIC signature according to RSASSA-PKCS-v1_5
                    byte[] iicSignature = privateKey.SignData(Encoding.ASCII.GetBytes(iicInput), HashAlgorithmName.SHA256,
                    RSASignaturePadding.Pkcs1);
                    string iicSignatureString = BitConverter.ToString(iicSignature).Replace("-", string.Empty);
                    Console.WriteLine("The IIC signature is: " + iicSignatureString);

                    // Hash IIC signature with MD5 to create IIC
                    byte[] iic = ((HashAlgorithm)CryptoConfig.CreateFromName("MD5")).ComputeHash(iicSignature);
                    string iicString = BitConverter.ToString(iic).Replace("-", string.Empty);
                    Console.WriteLine("The IIC is: " + iicString);
                }
                catch (Exception ex)
                {
                    Console.WriteLine(ex.Message);
                }
            }
        }
    }
}
```

6.2 SIGNATURE GENERATION CODE

6.2.1 JAVA EXAMPLE

This is the example for the generation of the signature in Java language. Variables are hardcoded as this is just an example.

```
import java.io.*;
import java.security.*;
import java.security.cert.X509Certificate;
import java.util.*;

import javax.xml.crypto.dsig.*;
import javax.xml.crypto.dsig.keyinfo.*;
import javax.xml.crypto.dsig.spec.*;
import javax.xml.crypto.dsig.dom.DOMSignContext;
import javax.xml.parsers.DocumentBuilder;
import javax.xml.parsers.DocumentBuilderFactory;
import javax.xml.transform.*;
import javax.xml.transform.dom.DOMSource;
import javax.xml.transform.stream.StreamResult;

import org.w3c.dom.*;
import org.xml.sax.InputSource;

public class SampleGenerateSignature {

    private static final XMLSignatureFactory xmlSigFactory = XMLSignatureFactory.getInstance("DOM");
```

```

public static final String XML_SCHEMA_NS = "https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema";
public static final String XML_REQUEST_ELEMENT = "RegisterInvoiceRequest";
public static final String XML_REQUEST_ID = "Request";
public static final String XML_SIG_METHOD = "http://www.w3.org/2001/04/xmldsig-more#rsa-sha256";

private static final String REQUEST_TO_SIGN =
"<RegisterInvoiceRequest " +
"  xmlns=\\"https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema\\" " +
"  xmlns:ns2=\\"http://www.w3.org/2000/09/xmldsig#" +
"    Id=\\"Request\\" " +
"    Version=\\"3\\">\r\n" +
"    <Header>...</Header>\r\n" +
"    <Invoice>...</Invoice>\r\n" +
"</RegisterInvoiceRequest>";

private static final String KEYSTORE_LOCATION = "****.p12";
private static final String KEYSTORE_TYPE = "PKCS12";
private static final String KEYSTORE_PASS = "****";
private static final String KEYSTORE_KEY_ALIAS = "****";

public static void main(String[] args) {
    try (FileInputStream fileInputStream = new FileInputStream(KEYSTORE_LOCATION)) {
        // Load a private from a key store
        KeyStore keyStore = KeyStore.getInstance(KEYSTORE_TYPE);
        keyStore.load(fileInputStream, KEYSTORE_PASS.toCharArray());
        Key privateKey = keyStore.getKey(KEYSTORE_KEY_ALIAS, KEYSTORE_PASS.toCharArray());
        X509Certificate certificate = (X509Certificate)keyStore.getCertificate(KEYSTORE_KEY_ALIAS);

        // Load XML to DOC
        DocumentBuilderFactory docFactory = DocumentBuilderFactory.newInstance();
        docFactory.setNamespaceAware(true);
        DocumentBuilder docBuilder = docFactory.newDocumentBuilder();
        Document doc = docBuilder.parse(new InputSource(new StringReader(REQUEST_TO_SIGN)));

        // Find root request element
        NodeList nodeToSignList = doc.getElementsByTagName(XML_SCHEMA_NS, XML_REQUEST_ELEMENT);
        if (nodeToSignList.getLength() == 0) {
            throw new Exception(String.format("XML element %s not found", XML_REQUEST_ELEMENT));
        }
        Node nodeToSign = nodeToSignList.item(0);

        // Create transform list
        List<Transform> transformList = new ArrayList<>();
        transformList.add(xmlSigFactory.newTransform(Transform.ENVELOPED, (TransformParameterSpec) null));
        transformList.add(xmlSigFactory.newTransform(CanonicalizationMethod.EXCLUSIVE, (C14NMethodParameterSpec) null));

        // Create digest reference element
        Reference ref = xmlSigFactory.newReference(
            "#" + XML_REQUEST_ID,
            xmlSigFactory.newDigestMethod(DigestMethod.SHA256, null),
            transformList,
            null,
            null);

        // Create signature method
        SignatureMethod signatureMethod = xmlSigFactory.newSignatureMethod(XML_SIG_METHOD, (SignatureMethodParameterSpec) null);

        // Create signed info element
        SignedInfo signedInfo = xmlSigFactory.newSignedInfo(
            xmlSigFactory.newCanonicalizationMethod(CanonicalizationMethod.EXCLUSIVE, (C14NMethodParameterSpec) null),
            signatureMethod,
            Collections.singletonList(ref));

        // Add certificate
        List<X509Certificate> certificateList = new ArrayList<>();
        certificateList.add(certificate);

        // Create key info element
        KeyInfoFactory keyInfoFactory = xmlSigFactory.getKeyInfoFactory();
        X509Data x509Data = keyInfoFactory.newX509Data(certificateList);
        KeyInfo keyInfo = keyInfoFactory.newKeyInfo(Collections.singletonList(x509Data));

        // Create context for signing
        DOMSignContext dsc = new DOMSignContext(privateKey, nodeToSign);
        dsc.setIdAttributeNS((Element)nodeToSign, null, "Id");

        // Sign document
        XMLSignature signature = xmlSigFactory.newXMLSignature(signedInfo, keyInfo);
        signature.sign(dsc);

        // Output to string
        TransformerFactory transformFactory = TransformerFactory.newInstance();
        Transformer transformer = transformFactory.newTransformer();
        transformer.setOutputProperty(OutputKeys.OMIT_XML_DECLARATION, "yes");
        StringWriter sw = new StringWriter();
        StreamResult streamRes = new StreamResult(sw);
        transformer.transform(new DOMSource(doc), streamRes);
        System.out.println ("Signed document is: " + sw.toString());
    } catch (Exception e) {
        e.printStackTrace();
    }
}

```

6.2.2 C# EXAMPLE

This is the example for the generation of the signature in .NET C# language. Variables are hardcoded as this is just an example.

```
using System;
using System.IO;
using System.Security.Cryptography;
using System.Security.Cryptography.X509Certificates;
using System.Security.Cryptography.Xml;
using System.Xml;

namespace FiscalizationSigningUtilityDotNet
{
    class SampleGenerateSignature
    {
        public const String XML_SCHEMA_NS = "https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema";
        public const String XML_REQUEST_ID = "Request";
        public const String XML_SIG_METHOD = "http://www.w3.org/2001/04/xmldsig-more#rsa-sha256";
        public const String XML_DIG_METHOD = "http://www.w3.org/2001/04/xmldsig-more#sha256";

        private const String REQUEST_TO_SIGN =
            "<RegisterInvoiceRequest " +
            "    xmlns=\"https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema\" " +
            "    xmlns:ns2=\"http://www.w3.org/2000/09/xmldsig#\" " +
            "    Id=\"Request\" " +
            "    Version=\"3\">\r\n" +
            "    <Header>...</Header>\r\n" +
            "    <Invoice>...</Invoice>\r\n" +
            "</RegisterInvoiceRequest>";

        private const String KEYSTORE_LOCATION = "****.p12";
        private const String KEYSTORE_PASS = "****";

        public static void Main(string[] args)
        {
            using (X509Certificate2 keyStore = new X509Certificate2(KEYSTORE_LOCATION, KEYSTORE_PASS))
            {
                try
                {
                    // Load a private from a key store
                    RSA privateKey = keyStore.GetRSAPrivateKey();

                    // Convert string XML to object
                    XmlDocument request = new XmlDocument();
                    request.LoadXml(REQUEST_TO_SIGN);

                    // Create key info element
                    KeyInfo keyInfo = new KeyInfo();
                    KeyInfoX509Data keyInfoData = new KeyInfoX509Data();
                    keyInfoData.AddCertificate(keyStore);
                    keyInfo.AddClause(keyInfoData);

                    // Create signature reference
                    Reference reference = new Reference("");
                    reference.AddTransform(new XmlDsigEnvelopedSignatureTransform(false));
                    reference.AddTransform(new XmlDsigExcC14NTransform(false));
                    reference.DigestMethod = XML_DIG_METHOD;
                    reference.Uri = "#" + XML_REQUEST_ID;

                    // Create signature
                    SignedXml xml = new SignedXml(request);
                    xml.SigningKey = privateKey;
                    xml.SignedInfo.CanonicalizationMethod = SignedXml.XmlDsigExcC14NTransformUri;
                    xml.SignedInfo.SignatureMethod = XML_SIG_METHOD;
                    xml.KeyInfo = keyInfo;
                    xml.AddReference(reference);
                    xml.ComputeSignature();

                    // Add signature element to the request
                    XmlElement signature = xml.GetXml();
                    request.DocumentElement.AppendChild(signature);

                    // Convert signed request to string and print
                    StringWriter sw = new StringWriter();
                    XmlTextWriter xw = new XmlTextWriter(sw);
                    request.WriteTo(xw);
                    Console.WriteLine("Signed document is: " + sw.ToString());
                }
                catch (Exception ex)
                {
                    Console.WriteLine(ex.Message);
                }
            }
        }
    }
}
```

6.3 SIGNATURE VALIDATION CODE

6.3.1 JAVA EXAMPLE

This is the example for the validation of the signature in Java language. Variables are hardcoded as this is just an example.

```
import java.io.*;
import java.security.cert.*;
import java.util.*;

import javax.xml.crypto.*;
import javax.xml.crypto.dom.*;
import javax.xml.crypto.dsig.*;
import javax.xml.crypto.dsig.keyinfo.*;
import javax.xml.crypto.dsig.dom.*;
import javax.xml.parsers.*;

import org.w3c.dom.*;
import org.xml.sax.*;

public class SampleValidateSignature {

    private static final XMLSignatureFactory xmlSigFactory = XMLSignatureFactory.getInstance("DOM");

    public static final String XML_SCHEMA_NS = "https://efiskalizimi.tatime.gov.al/FiscalizationService/schema";
    public static final String XML_RESPONSE_ELEMENT = "RegisterInvoiceResponse";
    public static final String XML_RESPONSE_ID = "Response";
    public static final String XML_SIG_METHOD = "http://www.w3.org/2001/04/xmldsig-more#rsa-sha256";
    public static final String XML_SIGNATURE_ELEMENT = "Signature";
    public static final String KEY_ALGORITHM = "RSA";

    private static final String RESPONSE_TO_VALIDATE =
        "<env:Envelope xmlns:env=\"http://schemas.xmlsoap.org/soap/envelope/\">\r\n" +
        "  <env:Header/>\r\n" +
        "  <env:Body/>\r\n" +
        "    <RegisterInvoiceResponse " +
        "      xmlns=\"https://efiskalizimi.tatime.gov.al/FiscalizationService/schema\" " +
        "      xmlns:ns0=\"http://www.w3.org/2000/09/xmldsig#\" " +
        "      Id=\"Response\" " +
        "      Version=\"3\">\r\n" +
        "      <Header>...</Header>\r\n" +
        "      <FIC>...</FIC>\r\n" +
        "      <Signature>...</Signature>\r\n" +
        "    </RegisterInvoiceResponse>\r\n" +
        "  </env:Body>\r\n" +
        "</env:Envelope>";

    public static void main(String[] args) throws Exception {

        // Get DOC from String XML
        DocumentBuilderFactory docFactory = DocumentBuilderFactory.newInstance();
        docFactory.setNamespaceAware(true);
        DocumentBuilder docBuilder = docFactory.newDocumentBuilder();
        Document doc = docBuilder.parse(new InputStreamReader(new StringReader(RESPONSE_TO_VALIDATE)));

        // Get signature node
        NodeList signatureNodeList = doc.getElementsByTagNameNS(XMLSignature.XMLNS, XML_SIGNATURE_ELEMENT);
        if (signatureNodeList.getLength() == 0) {
            throw new Exception(String.format("XML signature element %s not found.", XML_SIGNATURE_ELEMENT));
        }
        Node signatureNode = signatureNodeList.item(0);

        // Get signature element
        DOMStructure ds = new DOMStructure(signatureNode);
        XMLSignature signature;
        try {
            signature = xmlSigFactory.unmarshalXMLSignature(ds);
        } catch (MarshalException e) {
            throw new Exception("Signature extraction exception.", e);
        }

        // Get certificate from signature element
        X509Certificate cert;
        KeyInfo keyInfo = signature.getKeyInfo();
        if (keyInfo == null) {
            throw new Exception("KeyInfo element is missing.");
        } else {
            List<?> list = keyInfo.getContent();
            if (list.size() != 1) {
                throw new Exception("More than one KeyInfo element.");
            } else {
                Object info = list.get(0);
                if (!(info instanceof X509Data)) {
                    throw new Exception("KeyInfo element is not x509 certificate.");
                }
                SignatureMethod sm = signature.getSignedInfo().getSignatureMethod();
                X509Certificate certificate = (X509Certificate)((X509Data) info).getContent().get(0);
                if (!sm.getAlgorithm().equalsIgnoreCase(XML_SIG_METHOD) ||
                    !certificate.getPublicKey().getAlgorithm().equalsIgnoreCase(KEY_ALGORITHM)) {
                    throw new Exception("Valid certificate not found.");
                }
                cert = certificate;
            }
        }
    }
}
```

```

    }
}

// Get response node
NodeList responseNodeList = doc.getElementsByTagNameNS(XML_SCHEMA_NS, XML_RESPONSE_ELEMENT);
if (responseNodeList.getLength() == 0) {
    throw new Exception(String.format("XML element %s not found.", XML_RESPONSE_ELEMENT));
}
Node responseNode = responseNodeList.item(0);

DOMValidateContext dvc = new DOMValidateContext(cert.getPublicKey(), signatureNode);
dvc.setIdAttributeNS((Element)responseNode, null, "Id");

// Get signedInfo element
SignedInfo signedInfo = signature.getSignedInfo();
List<?> refList = signedInfo.getReferences();
if (refList != null && refList.size() != 1) {
    throw new Exception(String.format("Only one signature reference allowed, provided %s.", refList.size()));
}

// Check methods
Reference reference = (Reference)refList.get(0);
if (reference.getURI() == null || !reference.getURI().equals("#" + XML_RESPONSE_ID)) {
    throw new Exception(String.format("Signature reference URI must be provided with value \"%s\".", XML_RESPONSE_ID));
}

if (!signedInfo.getSignatureMethod().getAlgorithm().equalsIgnoreCase(XML_SIG_METHOD)) {
    throw new Exception(String.format("Signature method should be %s, provided %s.", XML_SIG_METHOD,
signedInfo.getSignatureMethod().getAlgorithm()));
}

if (!signedInfo.getCanonicalizationMethod().getAlgorithm().equalsIgnoreCase(CanonicalizationMethod.EXCLUSIVE)) {
    throw new Exception(String.format("Canonicalization method should be %s, provided %s.", CanonicalizationMethod.EXCLUSIVE,
signedInfo.getCanonicalizationMethod().getAlgorithm()));
}

if (!reference.getDigestMethod().getAlgorithm().equalsIgnoreCase(DigestMethod.SHA256)) {
    throw new Exception(String.format("Digest method should be %s, provided %s.", DigestMethod.SHA256,
reference.getDigestMethod().getAlgorithm()));
}

// Validate signature value
try {
    boolean isValid = signature.validate(dvc);
    if (!isValid) {
        boolean signatureValueStatus = signature.getSignatureValue().validate(dvc);
        if (!signatureValueStatus) {
            throw new Exception("Validation failed with signature value wrong.");
        }
        boolean referenceStatus = reference.validate(dvc);
        if (!referenceStatus) {
            throw new Exception("Validation failed with digest wrong.");
        }
    }
} catch (XMLSignatureException e) {
    throw new Exception("Signature validation failed.", e);
}

// Do additional checks
// * Check that certificate is issued by AKSHI CA
// * Check that CN of the certificate contains value "GDT eFiskalizimi"

// Conclusion
System.out.println ("Signature is valid");
}
}

```

7. ANNEX - WSDL version 3

```
<?xml version="1.0" encoding="UTF-8"?>
<wsdl:definitions
  name="FiscalizationService"
  targetNamespace="https://eFiskalizimi.tatime.gov.al/FiscalizationService"
  xmlns:al="https://eFiskalizimi.tatime.gov.al/FiscalizationService"
  xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
  xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:als="https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">

  <wsdl:types>
    <xsd:schema>
      <xsd:import namespace="https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema" schemaLocation="alimc-fiscalization-
service.xsd"/>
    </xsd:schema>
  </wsdl:types>

  <wsdl:message name="RegisterInvoiceRequest">
    <wsdl:documentation>Element representing register sale message.</wsdl:documentation>
    <wsdl:part element="als:RegisterInvoiceRequest" name="request" />
  </wsdl:message>

  <wsdl:message name="RegisterInvoiceResponse">
    <wsdl:documentation>Element representing register invoice response message.</wsdl:documentation>
    <wsdl:part element="als:RegisterInvoiceResponse" name="response" />
  </wsdl:message>

  <wsdl:message name="RegisterTCRRequest">
    <wsdl:documentation>Element representing request of the TCR registration message.</wsdl:documentation>
    <wsdl:part element="als:RegisterTCRRequest" name="request" />
  </wsdl:message>

  <wsdl:message name="RegisterTCRResponse">
    <wsdl:documentation>Element representing response of the TCR registration message.</wsdl:documentation>
    <wsdl:part element="als:RegisterTCRResponse" name="response" />
  </wsdl:message>

  <wsdl:message name="RegisterCashDepositRequest">
    <wsdl:documentation>Element representing request of the cash deposit request message.</wsdl:documentation>
    <wsdl:part element="als:RegisterCashDepositRequest" name="request" />
  </wsdl:message>

  <wsdl:message name="RegisterCashDepositResponse">
    <wsdl:documentation>Element representing response of the cash deposit response message.</wsdl:documentation>
    <wsdl:part element="als:RegisterCashDepositResponse" name="response" />
  </wsdl:message>

  <wsdl:message name="RegisterWTNRequest">
    <wsdl:documentation>Element representing warehouse transfer note request message.</wsdl:documentation>
    <wsdl:part element="als:RegisterWTNRequest" name="request" />
  </wsdl:message>

  <wsdl:message name="RegisterWTNResponse">
    <wsdl:documentation>Element representing warehouse transfer note response message.</wsdl:documentation>
    <wsdl:part element="als:RegisterWTNResponse" name="response" />
  </wsdl:message>

  <wsdl:portType name="FiscalizationServicePortType">
    <wsdl:operation name="registerInvoice">
      <wsdl:input message="al:RegisterInvoiceRequest"/>
      <wsdl:output message="al:RegisterInvoiceResponse"/>
    </wsdl:operation>
    <wsdl:operation name="registerTCR">
      <wsdl:input message="al:RegisterTCRRequest"/>
      <wsdl:output message="al:RegisterTCRResponse"/>
    </wsdl:operation>
    <wsdl:operation name="registerCashDeposit">
      <wsdl:input message="al:RegisterCashDepositRequest"/>
      <wsdl:output message="al:RegisterCashDepositResponse"/>
    </wsdl:operation>
    <wsdl:operation name="registerWTN">
      <wsdl:input message="al:RegisterWTNRequest"/>
      <wsdl:output message="al:RegisterWTNResponse"/>
    </wsdl:operation>
  </wsdl:portType>

  <wsdl:binding name="FiscalizationServiceSoap" type="al:FiscalizationServicePortType">
    <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
    <wsdl:operation name="registerInvoice">
      <soap:operation soapAction="https://eFiskalizimi.tatime.gov.al/FiscalizationService/RegisterInvoice"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
      <wsdl:output>
        <soap:body use="literal"/>
      </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="registerTCR">
      <soap:operation soapAction="https://eFiskalizimi.tatime.gov.al/FiscalizationService/RegisterTCR"/>
      <wsdl:input>
        <soap:body use="literal"/>
      </wsdl:input>
```

```

        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="registerCashDeposit">
        <soap:operation soapAction="https://eFiskalizimi.tatime.gov.al/FiscalizationService/RegisterCashDeposit"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
    <wsdl:operation name="registerWTN">
        <soap:operation soapAction="https://eFiskalizimi.tatime.gov.al/FiscalizationService/RegisterWTN"/>
        <wsdl:input>
            <soap:body use="literal"/>
        </wsdl:input>
        <wsdl:output>
            <soap:body use="literal"/>
        </wsdl:output>
    </wsdl:operation>
</wsdl:binding>

<wsdl:service name="FiscalizationService">
    <wsdl:port name="FiscalizationServicePort" binding="al:FiscalizationServiceSoap">
        <soap:address location="https://eFiskalizimi.tatime.gov.al/FiscalizationService"/>
    </wsdl:port>
</wsdl:service>
</wsdl:definitions>

```


8. ANNEX - XSD version 3

```
<?xml version="1.0" encoding="UTF-8"?>
<schema
  targetNamespace="https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema"
  xmlns:al="https://eFiskalizimi.tatime.gov.al/FiscalizationService/schema"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:ds="http://www.w3.org/2000/09/xmldsig#"
  xmlns:vc="http://www.w3.org/2007/XMLSchema-versioning"
  elementFormDefault="qualified"
  vc:minVersion="1.1">

  <import namespace="http://www.w3.org/2000/09/xmldsig#" schemaLocation="xmldsig-core-schema.xsd"/>

  <element name="RegisterInvoiceRequest">
    <annotation>
      <documentation>Root XML element representing register invoice message.</documentation>
    </annotation>
    <complexType>
      <all minOccurs="1" maxOccurs="1">
        <element name="Header" type="al:RegisterInvoiceRequestHeaderType" minOccurs="1" maxOccurs="1">
          <annotation>
            <documentation>XML element representing header of the invoice containing data about the message (request)
sent.</documentation>
          </annotation>
        </element>
        <element name="Invoice" type="al:InvoiceType" minOccurs="1" maxOccurs="1">
          <annotation>
            <documentation>XML element representing a single invoice.</documentation>
          </annotation>
        </element>
        <element ref="ds:Signature" minOccurs="1" maxOccurs="1">
          <annotation>
            <documentation>XML element representing signature for the invoice.</documentation>
          </annotation>
        </element>
      </all>
      <attribute name="Id" type="string" use="required" fixed="Request">
        <annotation>
          <documentation>Attribute used for signature creation and verification.</documentation>
        </annotation>
      </attribute>
      <attribute name="Version" type="al:IntSType" use="required" fixed="3">
        <annotation>
          <documentation>Attribute used to specify compliance with XSD schema.</documentation>
        </annotation>
      </attribute>
    </complexType>
  </element>
  <element name="RegisterInvoiceResponse">
    <annotation>
      <documentation>Root XML element representing register invoice response message.</documentation>
    </annotation>
    <complexType>
      <all>
        <element name="Header" type="al:RegisterInvoiceResponseHeaderType" minOccurs="1" maxOccurs="1">
          <annotation>
            <documentation>Element representing the header of the message.</documentation>
          </annotation>
        </element>
        <element name="FIC" type="al:UUIDSType" minOccurs="1" maxOccurs="1">
          <annotation>
            <documentation>CIS generated verification code that can be used to uniquely identify registered
invoice.</documentation>
          </annotation>
        </element>
        <element ref="ds:Signature" minOccurs="1" maxOccurs="1"/>
      </all>
      <attribute name="Id" type="string" use="required" fixed="Response">
        <annotation>
          <documentation>Identification of the response, used to reference a signature.</documentation>
        </annotation>
      </attribute>
      <attribute name="Version" type="al:IntSType" use="required" fixed="3">
        <annotation>
          <documentation>Identification of the schema version.</documentation>
        </annotation>
      </attribute>
    </complexType>
  </element>
  <element name="RegisterCashDepositRequest">
    <annotation>
      <documentation>Root XML element representing cash deposit request message.</documentation>
    </annotation>
    <complexType>
      <all minOccurs="1" maxOccurs="1">
        <element name="Header" type="al:RegisterCashDepositRequestHeaderType" minOccurs="1" maxOccurs="1">
          <annotation>
            <documentation>Element representing the header of the message.</documentation>
          </annotation>
        </element>
        <element name="CashDeposit" type="al:CashDepositType" minOccurs="1" maxOccurs="1">
          <annotation>
            <documentation>Element representing a single cash deposit request.</documentation>
          </annotation>
        </element>
        <element ref="ds:Signature" minOccurs="1" maxOccurs="1"/>
      </all>
    </complexType>
  </element>
```

```

        <attribute name="Id" type="string" use="required" fixed="Request">
          <annotation>
            <documentation>Identification of the request, used to reference a signature.</documentation>
          </annotation>
        </attribute>
        <attribute name="Version" type="al:IntSType" use="required" fixed="3">
          <annotation>
            <documentation>Identification of the schema version.</documentation>
          </annotation>
        </attribute>
      </complexType>
    </element>
    <element name="RegisterCashDepositResponse">
      <annotation>
        <documentation>Root XML element representing cash deposit response message.</documentation>
      </annotation>
      <complexType>
        <all minOccurs="1" maxOccurs="1">
          <element name="Header" type="al:RegisterCashDepositResponseHeaderType" minOccurs="1" maxOccurs="1">
            <annotation>
              <documentation>Element representing the header of the message.</documentation>
            </annotation>
          </element>
          <element name="FCDC" type="al:UUIDSType" minOccurs="1" maxOccurs="1">
            <annotation>
              <documentation>Fiscalization cash deposit code generated by the CIS.</documentation>
            </annotation>
          </element>
          <element ref="ds:Signature" minOccurs="1" maxOccurs="1"/>
        </all>
        <attribute name="Id" type="string" use="required" fixed="Response">
          <annotation>
            <documentation>Identification of the response, used to reference a signature.</documentation>
          </annotation>
        </attribute>
        <attribute name="Version" type="al:IntSType" use="required" fixed="3">
          <annotation>
            <documentation>Identification of the schema version.</documentation>
          </annotation>
        </attribute>
      </complexType>
    </element>
    <element name="RegisterTCRRequest">
      <annotation>
        <documentation>Root XML element representing TCR request message.</documentation>
      </annotation>
      <complexType>
        <all minOccurs="1" maxOccurs="1">
          <element name="Header" type="al:RegisterTCRRequestHeaderType" minOccurs="1" maxOccurs="1">
            <annotation>
              <documentation>Element representing the header of the message.</documentation>
            </annotation>
          </element>
          <element name="TCR" type="al:TCRType" minOccurs="1" maxOccurs="1">
            <annotation>
              <documentation>XML element representing a single TCR registration message.</documentation>
            </annotation>
          </element>
          <element ref="ds:Signature" minOccurs="1" maxOccurs="1"/>
        </all>
        <attribute name="Id" type="string" use="required" fixed="Request">
          <annotation>
            <documentation>Identification of the request, used to reference a signature.</documentation>
          </annotation>
        </attribute>
        <attribute name="Version" type="al:IntSType" use="required" fixed="3">
          <annotation>
            <documentation>Identification of the schema version.</documentation>
          </annotation>
        </attribute>
      </complexType>
    </element>
    <element name="RegisterTCRResponse">
      <annotation>
        <documentation>Root XML element representing TCR response message.</documentation>
      </annotation>
      <complexType>
        <all minOccurs="1" maxOccurs="1">
          <element name="Header" type="al:RegisterTCRResponseHeaderType" minOccurs="1" maxOccurs="1">
            <annotation>
              <documentation>Element representing the header of the message.</documentation>
            </annotation>
          </element>
          <element name="TCRCode" type="al:RegistrationCodeSType" minOccurs="1" maxOccurs="1">
            <annotation>
              <documentation>TCR code generated by the service.</documentation>
            </annotation>
          </element>
          <element ref="ds:Signature" minOccurs="1" maxOccurs="1"/>
        </all>
        <attribute name="Id" type="string" use="required" fixed="Response">
          <annotation>
            <documentation>Identification of the response, used to reference a signature.</documentation>
          </annotation>
        </attribute>
        <attribute name="Version" type="al:IntSType" use="required" fixed="3">
          <annotation>
            <documentation>Identification of the schema version.</documentation>
          </annotation>
        </attribute>
      </complexType>
    </element>
  </complexType>

```

```

</element>
<element name="RegisterWTNRequest">
  <annotation>
    <documentation>Root XML element representing warehouse transfer note request message.</documentation>
  </annotation>
  <complexType>
    <all minOccurs="1" maxOccurs="1">
      <element name="Header" type="al:RegisterWTNRequestHeaderType" minOccurs="1" maxOccurs="1">
        <annotation>
          <documentation>Element representing the header of the message.</documentation>
        </annotation>
      </element>
      <element name="WTN" type="al:WTNType" minOccurs="1" maxOccurs="1">
        <annotation>
          <documentation>Element representing a single warehouse transfer note.</documentation>
        </annotation>
      </element>
      <element ref="ds:Signature" minOccurs="1" maxOccurs="1"/>
    </all>
    <attribute name="Id" type="string" use="required" fixed="Request">
      <annotation>
        <documentation>Identification of the response, used to reference a signature.</documentation>
      </annotation>
    </attribute>
    <attribute name="Version" type="al:IntSType" use="required" fixed="3">
      <annotation>
        <documentation>Identification of the schema version.</documentation>
      </annotation>
    </attribute>
  </complexType>
</element>
<element name="RegisterWTNResponse">
  <annotation>
    <documentation>Root XML element representing warehouse transfer note response message.</documentation>
  </annotation>
  <complexType>
    <all minOccurs="1" maxOccurs="1">
      <element name="Header" type="al:RegisterWTNResponseHeaderType" minOccurs="1" maxOccurs="1">
        <annotation>
          <documentation>Element representing the header of the message.</documentation>
        </annotation>
      </element>
      <element name="FWTNIC" type="al:UUIDSType" minOccurs="1" maxOccurs="1">
        <annotation>
          <documentation>Fiscal warehouse transfer note code.</documentation>
        </annotation>
      </element>
      <element ref="ds:Signature" minOccurs="1" maxOccurs="1"/>
    </all>
    <attribute name="Id" type="string" use="required" fixed="Response">
      <annotation>
        <documentation>Identification of the response, used to reference a signature.</documentation>
      </annotation>
    </attribute>
    <attribute name="Version" type="al:IntSType" use="required" fixed="3">
      <annotation>
        <documentation>Identification of the schema version.</documentation>
      </annotation>
    </attribute>
  </complexType>
</element>
<complexType name="RegisterInvoiceRequestHeaderType">
  <attribute name="UUID" type="al:UUIDSType" use="required">
    <annotation>
      <documentation>UUID generated by a TCR for every register sale data message send to the CIS.</documentation>
    </annotation>
  </attribute>
  <attribute name="SendDateTime" type="al:UTCSType" use="required">
    <annotation>
      <documentation>Date and time of sending the register invoice data message from a TCR to the CIS.</documentation>
    </annotation>
  </attribute>
  <attribute name="SubseqDelivType" type="al:SubseqDelivTypeSType" use="optional">
    <annotation>
      <documentation>Type of subsequent delivery if message is delivered after invoice issuance.</documentation>
    </annotation>
  </attribute>
</complexType>
<complexType name="RegisterInvoiceResponseHeaderType">
  <attribute name="UUID" type="al:UUIDSType" use="required">
    <annotation>
      <documentation>Element generated by the CIS for every message sent to the TCR. It uniquely identifies the message sent to the TCR.</documentation>
    </annotation>
  </attribute>
  <attribute name="RequestUUID" type="al:UUIDSType" use="required">
    <annotation>
      <documentation>Element generated by the TCR and referenced by the CIS. It uniquely identifies the request message for which response message was sent to the TCR.</documentation>
    </annotation>
  </attribute>
  <attribute name="SendDateTime" type="al:UTCSType" use="required">
    <annotation>
      <documentation>Element represents date and time of sending the response message to the TCR. </documentation>
    </annotation>
  </attribute>
</complexType>
<complexType name="RegisterCashDepositRequestHeaderType">
  <attribute name="UUID" type="al:UUIDSType" use="required">
    <annotation>

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        <documentation>Element generated by the TCR. It uniquely identifies the request message sent from TCR to
        CIS.</documentation>
        </annotation>
        </attribute>
        <attribute name="SendDateTime" type="al:UTCSType" use="required" >
        <annotation>
        <documentation>Element represents date and time of sending the request message to the CIS.</documentation>
        </annotation>
        </attribute>
        <attribute name="SubseqDelivType" type="al:SubseqDelivTypeSType" use="optional" >
        <annotation>
        <documentation>Type of subsequent delivery if message is delivered after cash deposit issuance.</documentation>
        </annotation>
        </attribute>
    </complexType>
    <complexType name="RegisterCashDepositResponseHeaderType">
        <attribute name="UUID" type="al:UUIDSType" use="required">
        <annotation>
        <documentation>Element generated by the CIS. It uniquely identifies the response message sent from CIS to
        TCR.</documentation>
        </annotation>
        </attribute>
        <attribute name="RequestUUID" type="al:UUIDSType" use="required">
        <annotation>
        <documentation>Element generated by the TCR and referenced by the CIS. It uniquely identifies the request message
        for which response message was sent to the TCR.</documentation>
        </annotation>
        </attribute>
        <attribute name="SendDateTime" type="al:UTCSType" use="required">
        <annotation>
        <documentation>Element represents date and time of sending the response message to the TCR. </documentation>
        </annotation>
        </attribute>
    </complexType>
    <complexType name="RegisterTCRRequestHeaderType">
        <attribute name="UUID" type="al:UUIDSType" use="required">
        <annotation>
        <documentation>Element generated by the TCR. It uniquely identifies the request message sent from TCR to
        CIS.</documentation>
        </annotation>
        </attribute>
        <attribute name="SendDateTime" type="al:UTCSType" use="required">
        <annotation>
        <documentation>Element represents date and time of sending the request message to the CIS.</documentation>
        </annotation>
        </attribute>
    </complexType>
    <complexType name="RegisterTCRResponseHeaderType">
        <attribute name="UUID" type="al:UUIDSType" use="required">
        <annotation>
        <documentation>Element generated by the CIS. It uniquely identifies the response message sent from CIS to TCR.
        </documentation>
        </annotation>
        </attribute>
        <attribute name="RequestUUID" type="al:UUIDSType" use="required">
        <annotation>
        <documentation>Element generated by the TCR and referenced by the CIS. It uniquely identifies the request message
        for which the response message was sent to the TCR.</documentation>
        </annotation>
        </attribute>
        <attribute name="SendDateTime" type="al:UTCSType" use="required">
        <annotation>
        <documentation>Element represents date and time of sending the response message to the TCR. </documentation>
        </annotation>
        </attribute>
    </complexType>
    <complexType name="RegisterWTNRequestHeaderType">
        <attribute name="UUID" type="al:UUIDSType" use="required">
        <annotation>
        <documentation>Element generated by the CIS for every message sent to the TCR. It uniquely identifies the message
        sent to the TCR. </documentation>
        </annotation>
        </attribute>
        <attribute name="SendDateTime" type="al:UTCSType" use="required">
        <annotation>
        <documentation>Element represents date and time of sending the response message to the TCR.</documentation>
        </annotation>
        </attribute>
        <attribute name="SubseqDelivType" type="al:SubseqDelivTypeSType" use="optional" >
        <annotation>
        <documentation>Type of subsequent delivery if message is delivered after warehouse transfer note
        issuance.</documentation>
        </annotation>
        </attribute>
    </complexType>
    <complexType name="RegisterWTNResponseHeaderType">
        <attribute name="UUID" type="al:UUIDSType" use="required">
        <annotation>
        <documentation>Element generated by the CIS for every message sent to the TCR. It uniquely identifies the message
        sent to the TCR.</documentation>
        </annotation>
        </attribute>
        <attribute name="RequestUUID" type="al:UUIDSType" use="required">
        <annotation>
        <documentation>Element generated by the TCR and referenced by the CIS. It uniquely identifies the request message
        for which response message was sent to the TCR.</documentation>
        </annotation>
        </attribute>
        <attribute name="SendDateTime" type="al:UTCSType" use="required">
        <annotation>
        <documentation>Element represents date and time of sending the response message to the TCR.</documentation>
        </annotation>

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        </annotation>
      </attribute>
    </complexType>

    <complexType name="InvoiceType">
      <all>
        <element name="SupplyDateOrPeriod" type="al:SupplyDateOrPeriodType" minOccurs="0" maxOccurs="1">
          <annotation>
            <documentation>XML element representing supply date or period is supply is different from the date when the
invoice was issued.</documentation>
          </annotation>
        </element>
        <element name="CorrectiveInv" type="al:CorrectiveInvType" minOccurs="0" maxOccurs="1">
          <annotation>
            <documentation>XML element groups data for a corrective invoice.</documentation>
          </annotation>
        </element>
        <element name="PayMethods" type="al:PayMethodsType" minOccurs="1" maxOccurs="1">
          <annotation>
            <documentation>XML element representing list of payment methods.</documentation>
          </annotation>
          <unique name="UniquePayMethodType">
            <selector xpath="//al:PayMethod"/>
            <field xpath="@Type"/>
          </unique>
        </element>
        <element name="Currency" type="al:CurrencyType" minOccurs="0" maxOccurs="1">
          <annotation>
            <documentation>XML element representing currency in which the amount on the invoice is
expressed.</documentation>
          </annotation>
        </element>
        <element name="Seller" type="al:SellerType" minOccurs="1" maxOccurs="1">
          <annotation>
            <documentation>XML element representing an seller of the goods.</documentation>
          </annotation>
        </element>
        <element name="Buyer" type="al:BuyerType" minOccurs="0" maxOccurs="1">
          <annotation>
            <documentation>XML element representing a buyer of the goods.</documentation>
          </annotation>
        </element>
        <element name="Items" type="al:InvoiceItemsType" minOccurs="1" maxOccurs="1">
          <annotation>
            <documentation>XML element representing list of invoice items (goods or services).</documentation>
          </annotation>
        </element>
        <element name="SameTaxes" type="al:SameTaxesType" minOccurs="0" maxOccurs="1">
          <annotation>
            <documentation>XML element representing list of items of the same VAT rate.</documentation>
          </annotation>
        </element>
        <element name="ConsTaxes" type="al:ConsTaxesType" minOccurs="0" maxOccurs="1">
          <annotation>
            <documentation>XML element representing list of invoice items (goods or services) that are under consumption
tax.</documentation>
          </annotation>
        </element>
        <element name="Fees" type="al:FeesType" minOccurs="0" maxOccurs="1">
          <annotation>
            <documentation>XML element representing list of fees.</documentation>
          </annotation>
          <unique name="UniqueFeesType">
            <selector xpath="//al:Fee"/>
            <field xpath="@Type"/>
          </unique>
        </element>
        <element name="SumInvIICRefs" type="al:SumInvIICRefsType" minOccurs="0" maxOccurs="1">
          <annotation>
            <documentation>XML element representing list of invoices IIC referenced by a summary invoice.</documentation>
          </annotation>
        </element>
        <element name="BadDebtInv" type="al:BadDebtInvType" minOccurs="0" maxOccurs="1">
          <annotation>
            <documentation>XML element groups data for an original invoice that will be declared bad debt invoice, as
uncollectible.</documentation>
          </annotation>
        </element>
      </all>
      <attribute name="TypeOfInv" type="al:InvoiceSType" use="required">
        <annotation>
          <documentation>Type of the item represents the type of invoice item, e.g. regular sale or a returned
item.</documentation>
        </annotation>
      </attribute>
      <attribute name="IsSimplifiedInv" type="boolean" use="required">
        <annotation>
          <documentation>If the invoice is simplified or not.</documentation>
        </annotation>
      </attribute>
      <attribute name="TypeOfSelfIss" type="al:SelfIssSType" use="optional">
        <annotation>
          <documentation>Type of self-issuing.</documentation>
        </annotation>
      </attribute>
      <attribute name="IssueDateTime" type="al:UTCSType" use="required">
        <annotation>
          <documentation>Date and time of invoice created and issued at TCR.</documentation>
        </annotation>
      </attribute>
      <attribute name="InvNum" type="al:InvNumSType" use="required">

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        <annotation>
            <documentation>Invoice number composed of invoice ordinal number, year of invoice issuance and code of TCR that
issued invoice.</documentation>
        </annotation>
    </attribute>
    <attribute name="InvOrdNum" type="al:IntegerSType" use="required" >
        <annotation>
            <documentation>Invoice ordinal number.</documentation>
        </annotation>
    </attribute>
    <attribute name="TCRCode" type="al:RegistrationCodeSType" use="optional" >
        <annotation>
            <documentation>Code of the device that issued the invoice.</documentation>
        </annotation>
    </attribute>
    <attribute name="IsIssuerInVAT" type="boolean" use="required" >
        <annotation>
            <documentation>Is the taxpayer in the VAT system.</documentation>
        </annotation>
    </attribute>
    <attribute name="TaxFreeAmt" type="al:DecimalNegSType" use="optional" >
        <annotation>
            <documentation>Amount on items that are tax free.</documentation>
        </annotation>
    </attribute>
    <attribute name="MarkUpAmt" type="al:DecimalNegSType" use="optional" >
        <annotation>
            <documentation>Amount of the mark-up on the invoice.</documentation>
        </annotation>
    </attribute>
    <attribute name="GoodsExAmt" type="al:DecimalNegSType" use="optional" >
        <annotation>
            <documentation>Total price of delivery of exported goods. There is no VAT on the invoice.</documentation>
        </annotation>
    </attribute>
    <attribute name="TotPriceWoVAT" type="al:DecimalNegSType" use="required" >
        <annotation>
            <documentation>Total price of the invoice without VAT.</documentation>
        </annotation>
    </attribute>
    <attribute name="TotVATAmt" type="al:DecimalNegSType" use="optional" >
        <annotation>
            <documentation>Total VAT amount.</documentation>
        </annotation>
    </attribute>
    <attribute name="TotPrice" type="al:DecimalNegSType" use="required" >
        <annotation>
            <documentation>Total price of the invoice including VAT.</documentation>
        </annotation>
    </attribute>
    <attribute name="OperatorCode" type="al:RegistrationCodeSType" use="required" >
        <annotation>
            <documentation>Reference to the operator who is operating on TCR. Value represents code of the
operator.</documentation>
        </annotation>
    </attribute>
    <attribute name="BusinUnitCode" type="al:RegistrationCodeSType" use="required" >
        <annotation>
            <documentation>Code (ID) of the business unit in which the invoice is issued.</documentation>
        </annotation>
    </attribute>
    <attribute name="SoftCode" type="al:RegistrationCodeSType" use="required" >
        <annotation>
            <documentation>Number of the software used for invoice issuing.</documentation>
        </annotation>
    </attribute>
    <attribute name="ImpCustDecNum" type="al:String50SType" use="optional" >
        <annotation>
            <documentation>Import customs declaration number. Only for internal use. Must not be populated by a
TCR.</documentation>
        </annotation>
    </attribute>
    <attribute name="IIC" type="al:Hex32SType" use="required" >
        <annotation>
            <documentation>Issuers's invoice code which is generated by the cash register of the issuer of the invoice. This
is a unique code for every invoice. </documentation>
        </annotation>
    </attribute>
    <attribute name="IICSignature" type="al:Hex512SType" use="required" >
        <annotation>
            <documentation>Signed issuer's invoice code concatenated parameters.</documentation>
        </annotation>
    </attribute>
    <attribute name="IsReverseCharge" type="boolean" use="required" >
        <annotation>
            <documentation>Buyer is obliged to pay taxes by himself rather than issuer does it for him.</documentation>
        </annotation>
    </attribute>
    <attribute name="PayDeadline" type="al:DateSType" use="optional" >
        <annotation>
            <documentation>Last day for a payment.</documentation>
        </annotation>
    </attribute>
    <attribute name="IsEinvoice" type="boolean" use="required" >
        <annotation>
            <documentation>Is the invoice fiscalized during the einvoice creation process.</documentation>
        </annotation>
    </attribute>
</complexType>
<complexType name="InvoiceItemType">
    <all>

```

```

        <element name="VS" type="al:VouchersSoldType" minOccurs="0" maxOccurs="1">
            <annotation>
                <documentation>Element representing voucher data linked to this item.</documentation>
            </annotation>
        </element>
    </all>
    <attribute name="N" type="al:String50SType" use="required">
        <annotation>
            <documentation>Name of the item.</documentation>
        </annotation>
    </attribute>
    <attribute name="C" type="al:String50SType" use="optional">
        <annotation>
            <documentation>Code of the item.</documentation>
        </annotation>
    </attribute>
    <attribute name="U" type="al:String50SType" use="required">
        <annotation>
            <documentation>Unit of measure for specific item - piece, weight, length...</documentation>
        </annotation>
    </attribute>
    <attribute name="Q" type="al:DoubleNegForQuantitySType" use="required">
        <annotation>
            <documentation>Amount or number (quantity) of items.</documentation>
        </annotation>
    </attribute>
    <attribute name="UPB" type="al:DecimalSType" use="required">
        <annotation>
            <documentation>Price of one item before VAT is applied (unit price without VAT).</documentation>
        </annotation>
    </attribute>
    <attribute name="UPA" type="al:DecimalSType" use="required">
        <annotation>
            <documentation>Price of one item after VAT is applied (unit price with VAT). It is calculated as
PA/Q.</documentation>
        </annotation>
    </attribute>
    <attribute name="R" type="al:DecimalSType" use="optional">
        <annotation>
            <documentation>Rebate percentage.</documentation>
        </annotation>
    </attribute>
    <attribute name="RR" type="boolean" use="optional">
        <annotation>
            <documentation>Is rebate reducing base price?</documentation>
        </annotation>
    </attribute>
    <attribute name="PB" type="al:DecimalNegSType" use="required">
        <annotation>
            <documentation>Price before VAT for the items in this group of items. This is not the unit price of the item. It
is the unit price multiplied by the quantity of items.</documentation>
        </annotation>
    </attribute>
    <attribute name="VR" type="al:DecimalSType" use="optional">
        <annotation>
            <documentation>Rate of value added tax expressed as percentage.</documentation>
        </annotation>
    </attribute>
    <attribute name="VA" type="al:DecimalNegSType" use="optional">
        <annotation>
            <documentation>Amount of value added tax for the items in this group of items.</documentation>
        </annotation>
    </attribute>
    <attribute name="IN" type="boolean" use="optional">
        <annotation>
            <documentation>If true, the item is investment.</documentation>
        </annotation>
    </attribute>
    <attribute name="PA" type="al:DecimalNegSType" use="required">
        <annotation>
            <documentation>Price after applying VAT for the items in this group of items.</documentation>
        </annotation>
    </attribute>
    <attribute name="EX" type="al:ExemptFromVATSType" use="optional">
        <annotation>
            <documentation>Exempt from VAT.</documentation>
        </annotation>
    </attribute>
</complexType>
<complexType name="InvoiceItemsType">
    <sequence>
        <element name="I" type="al:InvoiceItemType" minOccurs="1" maxOccurs="1000">
            <annotation>
                <documentation>Element representing a single item on the invoice.</documentation>
            </annotation>
        </element>
    </sequence>
</complexType>
<complexType name="SupplyDateOrPeriodType">
    <attribute name="Start" type="al:DateSType" use="required">
        <annotation>
            <documentation>Issuer's NUIS.</documentation>
        </annotation>
    </attribute>
    <attribute name="End" type="al:DateSType" use="required">
        <annotation>
            <documentation>Issuer's name.</documentation>
        </annotation>
    </attribute>
</complexType>
<complexType name="CorrectiveInvType">

```

```

<attribute name="IICRef" type="al:Hex32SType" use="required">
  <annotation>
    <documentation>IIC reference on the original invoice.</documentation>
  </annotation>
</attribute>
<attribute name="IssueDateTime" type="al:UTCSType" use="required">
  <annotation>
    <documentation>Date and time the original invoice is created and issued at TCR</documentation>
  </annotation>
</attribute>
<attribute name="Type" type="al:CorrectiveInvTypeSType" use="required">
  <annotation>
    <documentation>Type of the corrective invoice.</documentation>
  </annotation>
</attribute>
</complexType>
<complexType name="CurrencyType">
  <attribute name="Code" type="al:CurrencyCodeSType" use="required">
    <annotation>
      <documentation>Currency code from the ISO 4217 standard.</documentation>
    </annotation>
  </attribute>
  <attribute name="ExRate" type="al:DoubleSType" use="required">
    <annotation>
      <documentation>Exchange rate applied to calculate the equivalent amount of foreign currency for the total amount
expressed in LEK. Exchange rate express equivalent amount of LEK for 1 unit of foreign currency.</documentation>
    </annotation>
  </attribute>
  <attribute name="IsBuying" type="boolean" use="optional">
    <annotation>
      <documentation>True if exchange transaction is buying of the currency. False if exchange transaction is selling of
the currency.</documentation>
    </annotation>
  </attribute>
</complexType>
<complexType name="SellerType">
  <attribute name="IDType" type="al:IDTypeSType" use="required">
    <annotation>
      <documentation>Seller's identification number type.</documentation>
    </annotation>
  </attribute>
  <attribute name="IDNum" type="al:String20SType" use="required">
    <annotation>
      <documentation>Seller's identification number.</documentation>
    </annotation>
  </attribute>
  <attribute name="Name" type="al:String200SType" use="required">
    <annotation>
      <documentation>Seller's name.</documentation>
    </annotation>
  </attribute>
  <attribute name="Address" type="al:String400SType" use="optional">
    <annotation>
      <documentation>Seller's address.</documentation>
    </annotation>
  </attribute>
  <attribute name="Town" type="al:String200SType" use="optional">
    <annotation>
      <documentation>Seller's town.</documentation>
    </annotation>
  </attribute>
  <attribute name="Country" type="al:CountryCodeSType" use="optional">
    <annotation>
      <documentation>Seller's country.</documentation>
    </annotation>
  </attribute>
</complexType>
<complexType name="BuyerType">
  <attribute name="IDType" type="al:IDTypeSType" use="optional">
    <annotation>
      <documentation>Buyer's identification number type.</documentation>
    </annotation>
  </attribute>
  <attribute name="IDNum" type="al:String20SType" use="optional">
    <annotation>
      <documentation>Buyer's identification number.</documentation>
    </annotation>
  </attribute>
  <attribute name="Name" type="al:String200SType" use="optional">
    <annotation>
      <documentation>Buyer's name.</documentation>
    </annotation>
  </attribute>
  <attribute name="Address" type="al:String400SType" use="optional">
    <annotation>
      <documentation>Buyer's address.</documentation>
    </annotation>
  </attribute>
  <attribute name="Town" type="al:String200SType" use="optional">
    <annotation>
      <documentation>Buyer's town.</documentation>
    </annotation>
  </attribute>
  <attribute name="Country" type="al:CountryCodeSType" use="optional">
    <annotation>
      <documentation>Buyer's country.</documentation>
    </annotation>
  </attribute>
</complexType>
<complexType name="WTNIssuerType">
  <attribute name="NUIS" type="al:NUISSType" use="required">

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        <annotation>
            <documentation>NUIS of the WTN issuer.</documentation>
        </annotation>
    </attribute>
    <attribute name="Name" type="al:String200SType" use="required">
        <annotation>
            <documentation>Name of the WTN issuer.</documentation>
        </annotation>
    </attribute>
    <attribute name="Address" type="al:String400SType" use="required">
        <annotation>
            <documentation>Address of the WTN issuer.</documentation>
        </annotation>
    </attribute>
    <attribute name="Town" type="al:String200SType" use="required">
        <annotation>
            <documentation>Town of the WTN issuer.</documentation>
        </annotation>
    </attribute>
</complexType>
<complexType name="WTNBuyerType">
    <attribute name="NUIS" type="al:NUISType" use="required">
        <annotation>
            <documentation>NUIS of the buyer of goods.</documentation>
        </annotation>
    </attribute>
    <attribute name="Name" type="al:String200SType" use="required">
        <annotation>
            <documentation>Name of the buyer of goods.</documentation>
        </annotation>
    </attribute>
    <attribute name="Address" type="al:String400SType" use="required">
        <annotation>
            <documentation>Address of the buyer of goods.</documentation>
        </annotation>
    </attribute>
    <attribute name="Town" type="al:String200SType" use="required">
        <annotation>
            <documentation>Town of the buyer of goods.</documentation>
        </annotation>
    </attribute>
</complexType>
<complexType name="WTNCarrierType">
    <attribute name="IDType" type="al:CarrierIDTypeSType" use="required">
        <annotation>
            <documentation>Carrier's identification number type.</documentation>
        </annotation>
    </attribute>
    <attribute name="IDNum" type="al:String20SType" use="required">
        <annotation>
            <documentation>Carrier's identification number.</documentation>
        </annotation>
    </attribute>
    <attribute name="Name" type="al:String200SType" use="required">
        <annotation>
            <documentation>Carrier's name.</documentation>
        </annotation>
    </attribute>
    <attribute name="Address" type="al:String400SType" use="optional">
        <annotation>
            <documentation>Carrier's address.</documentation>
        </annotation>
    </attribute>
    <attribute name="Town" type="al:String200SType" use="optional">
        <annotation>
            <documentation>Carrier's town.</documentation>
        </annotation>
    </attribute>
</complexType>
<complexType name="PayMethodsType">
    <sequence>
        <element name="PayMethod" type="al:PayMethodType" minOccurs="1" maxOccurs="10">
            <annotation>
                <documentation>XML element representing one payment method.</documentation>
            </annotation>
        </element>
    </sequence>
</complexType>
<complexType name="SameTaxesType">
    <sequence>
        <element name="SameTax" type="al:SameTaxType" minOccurs="1" maxOccurs="20">
            <annotation>
                <documentation>Element representing an item of list of same tax items.</documentation>
            </annotation>
        </element>
    </sequence>
</complexType>
<complexType name="ConsTaxesType">
    <sequence>
        <element name="ConsTax" type="al:ConsTaxType" minOccurs="1" maxOccurs="20">
            <annotation>
                <documentation>Element representing an item on list of items under consumption tax.</documentation>
            </annotation>
        </element>
    </sequence>
</complexType>
<complexType name="FeesType">
    <sequence>
        <element name="Fee" type="al:FeeType" minOccurs="1" maxOccurs="20">
            <annotation>
                <documentation>Element representing an item of list of fee items.</documentation>
            </annotation>
        </element>
    </sequence>
</complexType>

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        </annotation>
      </element>
    </sequence>
  </complexType>
  <complexType name="SumInvIICRefsType">
    <sequence>
      <element name="SumInvIICRef" type="al:SumInvIICRefType" minOccurs="1" maxOccurs="1000">
        <annotation>
          <documentation>XML element representing a single IIC reference on the list of SumInvIICRefs.</documentation>
        </annotation>
      </element>
    </sequence>
  </complexType>
  <complexType name="PayMethodType">
    <sequence>
      <element name="Vouchers" type="al:VouchersType" minOccurs="0" maxOccurs="1">
        <annotation>
          <documentation>XML element representing list of voucher numbers if the payment method is
voucher.</documentation>
        </annotation>
      </element>
    </sequence>
    <attribute name="Type" type="al:PaymentMethodTypeSType" use="required">
      <annotation>
        <documentation>Type of the payment method.</documentation>
      </annotation>
    </attribute>
    <attribute name="Amt" type="al:DecimalNegSType" use="optional">
      <annotation>
        <documentation>Amount paid by payment method in the country currency.</documentation>
      </annotation>
    </attribute>
    <attribute name="CompCard" type="al:String50SType" use="optional">
      <annotation>
        <documentation>Company card number if the payment method is company cards.</documentation>
      </annotation>
    </attribute>
  </complexType>
  <complexType name="VouchersType">
    <sequence>
      <element name="Voucher" type="al:VoucherType" minOccurs="1" maxOccurs="20">
        <annotation>
          <documentation>XML element representing a single voucher number.</documentation>
        </annotation>
      </element>
    </sequence>
  </complexType>
  <complexType name="VoucherType">
    <attribute name="Num" type="al:VoucherNumSType" use="required">
      <annotation>
        <documentation>XML element representing single voucher serial number.</documentation>
      </annotation>
    </attribute>
  </complexType>
  <complexType name="SameTaxType">
    <attribute name="NumOfItems" type="al:IntSType" use="required">
      <annotation>
        <documentation>Number of items.</documentation>
      </annotation>
    </attribute>
    <attribute name="PriceBefVAT" type="al:DecimalNegSType" use="required">
      <annotation>
        <documentation>Price before VAT.</documentation>
      </annotation>
    </attribute>
    <attribute name="VATRate" type="al:DecimalNegSType" use="optional">
      <annotation>
        <documentation>VAT rate.</documentation>
      </annotation>
    </attribute>
    <attribute name="ExemptFromVAT" type="al:ExemptFromVATSameTaxItemSType" use="optional">
      <annotation>
        <documentation>Exempt from VAT.</documentation>
      </annotation>
    </attribute>
    <attribute name="VATAmt" type="al:DecimalNegSType" use="optional">
      <annotation>
        <documentation>VAT amount.</documentation>
      </annotation>
    </attribute>
  </complexType>
  <complexType name="ConsTaxType">
    <attribute name="NumOfItems" type="al:IntSType" use="required">
      <annotation>
        <documentation>Number of items.</documentation>
      </annotation>
    </attribute>
    <attribute name="PriceBefConsTax" type="al:DecimalNegSType" use="required">
      <annotation>
        <documentation>Price before consumption tax.</documentation>
      </annotation>
    </attribute>
    <attribute name="ConsTaxRate" type="al:DecimalNegSType" use="required">
      <annotation>
        <documentation>Consumption tax rate.</documentation>
      </annotation>
    </attribute>
    <attribute name="ConsTaxAmt" type="al:DecimalNegSType" use="required">
      <annotation>
        <documentation>Consumption tax amount.</documentation>
      </annotation>
    </attribute>
  </complexType>

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    </attribute>
  </complexType>
  <complexType name="FeeType">
    <attribute name="Type" type="al:FeeTypeSType" use="required">
      <annotation>
        <documentation>Type of the fee.</documentation>
      </annotation>
    </attribute>
    <attribute name="Amt" type="al:DecimalNegSType" use="required">
      <annotation>
        <documentation>The decimal amount of the fee in the country currency.</documentation>
      </annotation>
    </attribute>
  </complexType>
  <complexType name="SumInvIICRefType">
    <attribute name="IIC" type="al:Hex32SType" use="required">
      <annotation>
        <documentation>IIC of the invoice that is referenced by the summary invoice.</documentation>
      </annotation>
    </attribute>
    <attribute name="IssueDateTime" type="al:UTCSType" use="required">
      <annotation>
        <documentation>Date and time the invoice referenced by the summary invoice is created and issued at
TCR.</documentation>
      </annotation>
    </attribute>
  </complexType>
  <complexType name="CashDepositType">
    <attribute name="ChangeDateTime" type="al:UTCSType" use="required" >
      <annotation>
        <documentation>Element representing date and time when the deposit of cash was checked in the cash
register.</documentation>
      </annotation>
    </attribute>
    <attribute name="Operation" type="al:CashDepositOperationSType" use="required">
      <annotation>
        <documentation>This is an XML element that represents the operation made at the cash register.</documentation>
      </annotation>
    </attribute>
    <attribute name="CashAmt" type="al:DecimalSType" use="required" >
      <annotation>
        <documentation>Element representing the amount of cash found in the cash register after the
operation.</documentation>
      </annotation>
    </attribute>
    <attribute name="TCRCode" type="al:RegistrationCodeSType" use="required" >
      <annotation>
        <documentation>Element representing the unique code of the TCR in question.</documentation>
      </annotation>
    </attribute>
    <attribute name="IssuerNUISType" type="al:NUISType" use="required">
      <annotation>
        <documentation>Element representing issuer's NUIS (tax number).</documentation>
      </annotation>
    </attribute>
  </complexType>
  <complexType name="TCRType">
    <simpleContent>
      <extension base="string">
        <attribute name="IssuerNUISType" type="al:NUISType" use="required">
          <annotation>
            <documentation>Issuer's NUIS.</documentation>
          </annotation>
        </attribute>
        <attribute name="BusinUnitCode" type="al:RegistrationCodeSType" use="required">
          <annotation>
            <documentation>Code of the business unit in which the invoice is issued.</documentation>
          </annotation>
        </attribute>
        <attribute name="TCRIntID" type="al:String50SType" use="required">
          <annotation>
            <documentation>Element representing the internal identification of the TCR.</documentation>
          </annotation>
        </attribute>
        <attribute name="SoftCode" type="al:RegistrationCodeSType" use="optional">
          <annotation>
            <documentation>Code of the software used for invoice issuing.</documentation>
          </annotation>
        </attribute>
        <attribute name="MaintainerCode" type="al:RegistrationCodeSType" use="optional">
          <annotation>
            <documentation>Code of the maintainer of the software used for invoice issuing.</documentation>
          </annotation>
        </attribute>
        <attribute name="ValidFrom" type="al:DateSType" use="optional">
          <annotation>
            <documentation>Date from which the TCR will be used.</documentation>
          </annotation>
        </attribute>
        <attribute name="ValidTo" type="al:DateSType" use="optional">
          <annotation>
            <documentation>Date until the TCR will be used.</documentation>
          </annotation>
        </attribute>
        <attribute name="Type" type="al:TCRSType" use="optional">
          <annotation>
            <documentation>TCR type.</documentation>
          </annotation>
        </attribute>
      </extension>
    </simpleContent>
  </complexType>

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</complexType>
<complexType name="WTNType">
  <sequence>
    <element name="Issuer" type="al:WTNIssuerType" minOccurs="1" maxOccurs="1">
      <annotation>
        <documentation>Issuer of the WTN.</documentation>
      </annotation>
    </element>
    <element name="Carrier" type="al:WTNCarrierType" minOccurs="0" maxOccurs="1">
      <annotation>
        <documentation>Carrier of the goods.</documentation>
      </annotation>
    </element>
    <element name="Items" type="al:WTNItemsType" minOccurs="1" maxOccurs="1">
      <annotation>
        <documentation>XML element representing a list of items of the note.</documentation>
      </annotation>
    </element>
  </sequence>
  <attribute name="Type" type="al:WTNSType" use="required">
    <annotation>
      <documentation>Type of WTN.</documentation>
    </annotation>
  </attribute>
  <attribute name="Transaction" type="al:WTNTransactionSType" use="required">
    <annotation>
      <documentation>Transaction type.</documentation>
    </annotation>
  </attribute>
  <attribute name="IssueDateTime" type="al:UTCSType" use="required">
    <annotation>
      <documentation>Date and time of the note creation on a TCR.</documentation>
    </annotation>
  </attribute>
  <attribute name="OperatorCode" type="al:RegistrationCodeSType" use="required">
    <annotation>
      <documentation>Reference to the operator who is operating on TCR. Value represents code of the
operator.</documentation>
    </annotation>
  </attribute>
  <attribute name="BusinUnitCode" type="al:RegistrationCodeSType" use="required">
    <annotation>
      <documentation>Code of the business unit in which the note is issued.</documentation>
    </annotation>
  </attribute>
  <attribute name="SoftCode" type="al:RegistrationCodeSType" use="required">
    <annotation>
      <documentation>Code of the software used for WTN issuing.</documentation>
    </annotation>
  </attribute>
  <attribute name="WTNOrdNum" type="al:IntegerSType" use="required" >
    <annotation>
      <documentation>WTN ordinal number.</documentation>
    </annotation>
  </attribute>
  <attribute name="WTNNum" type="al:WTNNumSType" use="required">
    <annotation>
      <documentation>Unique identifying number of the warehouse transfer note. It consists of ordinal number of the note
and calendar year, without leading zero.</documentation>
    </annotation>
  </attribute>
  <attribute name="ValueOfGoods" type="al:DecimalNegSType" use="required" >
    <annotation>
      <documentation>Cost of goods at cost price.</documentation>
    </annotation>
  </attribute>
  <attribute name="VehOwnership" type="al:VehOwnershipSType" use="required" >
    <annotation>
      <documentation>Vehicle ownership type.</documentation>
    </annotation>
  </attribute>
  <attribute name="VehPlates" type="al:VehPlatesSType" use="required">
    <annotation>
      <documentation>Plates of the vehicle that will transport the goods.</documentation>
    </annotation>
  </attribute>
  <attribute name="StartAddr" type="al:String400SType" use="required">
    <annotation>
      <documentation>Starting address of the transportation.</documentation>
    </annotation>
  </attribute>
  <attribute name="StartCity" type="al:String200SType" use="required">
    <annotation>
      <documentation>City where the transportation started in.</documentation>
    </annotation>
  </attribute>
  <attribute name="StartDateTime" type="al:UTCSType" use="required">
    <annotation>
      <documentation>Date and time of the transport departure from start address.</documentation>
    </annotation>
  </attribute>
  <attribute name="StartPoint" type="al:WTNStartPointsSType" use="required">
    <annotation>
      <documentation>Type of start point.</documentation>
    </annotation>
  </attribute>
  <attribute name="DestinAddr" type="al:String400SType" use="required">
    <annotation>
      <documentation>Destination address of the transportation.</documentation>
    </annotation>
  </attribute>

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<attribute name="DestinCity" type="al:String200SType" use="required">
  <annotation>
    <documentation>City where the transportation will end.</documentation>
  </annotation>
</attribute>
<attribute name="DestinDateTime" type="al:UTCSType" use="required">
  <annotation>
    <documentation>Expected date when the goods should arrive to its destination.</documentation>
  </annotation>
</attribute>
<attribute name="DestinPoint" type="al:WTNDestinPointSType" use="required">
  <annotation>
    <documentation>Type of destination point.</documentation>
  </annotation>
</attribute>
<attribute name="IsGoodsFlammable" type="boolean" use="required">
  <annotation>
    <documentation>Are goods flammable or not.</documentation>
  </annotation>
</attribute>
<attribute name="IsEscortRequired" type="boolean" use="required">
  <annotation>
    <documentation>Is escort required or not.</documentation>
  </annotation>
</attribute>
<attribute name="PackType" type="al:String50SType" use="optional">
  <annotation>
    <documentation>Type of packaging.</documentation>
  </annotation>
</attribute>
<attribute name="PackNum" type="al:IntSType" use="optional">
  <annotation>
    <documentation>Number of packs.</documentation>
  </annotation>
</attribute>
<attribute name="ItemsNum" type="al:IntSType" use="optional">
  <annotation>
    <documentation>Number of items of goods.</documentation>
  </annotation>
</attribute>
<attribute name="WTNIC" type="al:Hex32SType" use="required">
  <annotation>
    <documentation>Warehouse transfer note identification code.</documentation>
  </annotation>
</attribute>
<attribute name="WTNICSignature" type="al:Hex512SType" use="required" >
  <annotation>
    <documentation>Signed warehouse transfer note identification code concatenated parameters.</documentation>
  </annotation>
</attribute>
</complexType>
<complexType name="WTNItemsType">
  <sequence>
    <element name="I" type="al:WTNItemType" minOccurs="1" maxOccurs="1000">
      <annotation>
        <documentation>XML element representing a list of items of the note.</documentation>
      </annotation>
    </element>
  </sequence>
</complexType>
<complexType name="WTNItemType">
  <annotation>
    <documentation/>
  </annotation>
  <attribute name="N" type="al:String50SType" use="required">
    <annotation>
      <documentation>Name of the item.</documentation>
    </annotation>
  </attribute>
  <attribute name="C" type="al:String50SType" use="optional">
    <annotation>
      <documentation>Code of the item.</documentation>
    </annotation>
  </attribute>
  <attribute name="U" type="al:String50SType" use="required">
    <annotation>
      <documentation>Unit of measure for specific item - piece, weight, length...</documentation>
    </annotation>
  </attribute>
  <attribute name="Q" type="al:DoubleNegForQuantitySType" use="required">
    <annotation>
      <documentation>Amount or number (quantity) of items.</documentation>
    </annotation>
  </attribute>
</complexType>
<complexType name="VouchersSoldType">
  <all>
    <element name="VD" type="al:VoucherSoldDataType" minOccurs="1" maxOccurs="1">
      <annotation>
        <documentation>XML element representing a voucher data.</documentation>
      </annotation>
    </element>
    <element name="VN" type="al:VouchersSoldNumType" minOccurs="1" maxOccurs="1">
      <annotation>
        <documentation>XML element representing a voucher numbers.</documentation>
      </annotation>
    </element>
  </all>
</complexType>
<complexType name="VoucherSoldDataType">
  <attribute name="D" type="al:DateSType" use="required">

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        <annotation>
            <documentation>Expiration date of the voucher.</documentation>
        </annotation>
    </attribute>
    <attribute name="N" type="al:DecimalSType" use="required">
        <annotation>
            <documentation>Nominal voucher value.</documentation>
        </annotation>
    </attribute>
</complexType>
<complexType name="VouchersSoldNumType">
    <sequence>
        <element name="V" type="al:VoucherType" minOccurs="1" maxOccurs="1000">
            <annotation>
                <documentation>XML element representing a single voucher number sold.</documentation>
            </annotation>
        </element>
    </sequence>
</complexType>
<complexType name="BadDebtInvType">
    <attribute name="IICRef" type="al:Hex32SType" use="required">
        <annotation>
            <documentation>IIC reference on the original invoice.</documentation>
        </annotation>
    </attribute>
    <attribute name="IssueDateTime" type="al:UTCSType" use="required">
        <annotation>
            <documentation>Date and time the original invoice is created and issued at TCR</documentation>
        </annotation>
    </attribute>
</complexType>
<simpleType name="InvoiceSType">
    <annotation>
        <documentation>Invoice type.</documentation>
    </annotation>
    <restriction base="string">
        <enumeration value="CASH">
            <annotation>
                <documentation>Cash invoice.</documentation>
            </annotation>
        </enumeration>
        <enumeration value="NONCASH">
            <annotation>
                <documentation>Non-cash invoice.</documentation>
            </annotation>
        </enumeration>
    </restriction>
</simpleType>
<simpleType name="WTNSType">
    <annotation>
        <documentation>Warehouse transfer note type.</documentation>
    </annotation>
    <restriction base="string">
        <enumeration value="WTN">
            <annotation>
                <documentation>WTN without changing ownership.</documentation>
            </annotation>
        </enumeration>
        <enumeration value="SALE">
            <annotation>
                <documentation>WTN with changing ownership.</documentation>
            </annotation>
        </enumeration>
    </restriction>
</simpleType>
<simpleType name="TCRSType">
    <annotation>
        <documentation>TCR type.</documentation>
    </annotation>
    <restriction base="string">
        <enumeration value="REGULAR">
            <annotation>
                <documentation>Regular TCR.</documentation>
            </annotation>
        </enumeration>
        <enumeration value="VENDING">
            <annotation>
                <documentation>Self-vending machine.</documentation>
            </annotation>
        </enumeration>
    </restriction>
</simpleType>
<simpleType name="WTNGroupOfGoodsSType">
    <annotation>
        <documentation>Warehouse transfer note group of goods.</documentation>
    </annotation>
    <restriction base="string">
        <enumeration value="FUEL">
            <annotation>
                <documentation>Fuel group of goods.</documentation>
            </annotation>
        </enumeration>
        <enumeration value="ALCOHOL">
            <annotation>
                <documentation>Alcohol group of goods.</documentation>
            </annotation>
        </enumeration>
        <enumeration value="CIGARETTES">
            <annotation>
                <documentation>Cigarettes group of goods.</documentation>
            </annotation>
        </enumeration>
    </restriction>
</simpleType>

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        </annotation>
      </enumeration>
      <enumeration value="OTHER">
        <annotation>
          <documentation>Other group of goods.</documentation>
        </annotation>
      </enumeration>
    </restriction>
  </simpleType>
  <simpleType name="WTNTransactionSType">
    <annotation>
      <documentation>Warehouse transfer note transaction type.</documentation>
    </annotation>
    <restriction base="string">
      <enumeration value="SALES">
        <annotation>
          <documentation>Regular sales transaction type.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="EXAMINATION">
        <annotation>
          <documentation>Examination transaction type.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="TRANSFER">
        <annotation>
          <documentation>Transfer transaction type.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="DOOR">
        <annotation>
          <documentation>Door to door sales transaction type.</documentation>
        </annotation>
      </enumeration>
    </restriction>
  </simpleType>
  <simpleType name="WTNStartPointSType">
    <annotation>
      <documentation>Type of start point.</documentation>
    </annotation>
    <restriction base="string">
      <enumeration value="WAREHOUSE">
        <annotation>
          <documentation>Warehouse.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="EXHIBITION">
        <annotation>
          <documentation>Exhibition.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="STORE">
        <annotation>
          <documentation>Store.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="SALE">
        <annotation>
          <documentation>Point of sale.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="ANOTHER">
        <annotation>
          <documentation>Another person's warehouse.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="CUSTOMS">
        <annotation>
          <documentation>Customs warehouse.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="OTHER">
        <annotation>
          <documentation>Other.</documentation>
        </annotation>
      </enumeration>
    </restriction>
  </simpleType>
  <simpleType name="WTNDestinPointSType">
    <annotation>
      <documentation>Type of destination point.</documentation>
    </annotation>
    <restriction base="string">
      <enumeration value="WAREHOUSE">
        <annotation>
          <documentation>Warehouse.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="EXHIBITION">
        <annotation>
          <documentation>Exhibition.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="STORE">
        <annotation>
          <documentation>Store.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="SALE">
        <annotation>
          <documentation>Point of sale.</documentation>
        </annotation>
      </enumeration>
    </restriction>
  </simpleType>

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```

        </annotation>
      </enumeration>
      <enumeration value="OTHER">
        <annotation>
          <documentation>Other.</documentation>
        </annotation>
      </enumeration>
    </restriction>
  </simpleType>
  <simpleType name="VehOwnershipSType">
    <annotation>
      <documentation>Vehicle ownership type.</documentation>
    </annotation>
    <restriction base="string">
      <enumeration value="OWNER">
        <annotation>
          <documentation>Vehicle owned.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="THIRDPARTY">
        <annotation>
          <documentation>Third party vehicle.</documentation>
        </annotation>
      </enumeration>
    </restriction>
  </simpleType>
  <simpleType name="DecimalSType">
    <annotation>
      <documentation>Decimal number with two numbers after decimal point.</documentation>
    </annotation>
    <restriction base="decimal">
      <pattern value="([1-9][0-9]*|0)\.[0-9]{2}|0"/>
    </restriction>
  </simpleType>
  <simpleType name="SelfIssSType">
    <annotation>
      <documentation>Self issuing type.</documentation>
    </annotation>
    <restriction base="string">
      <enumeration value="AGREEMENT">
        <annotation>
          <documentation>The previous agreement between the parties.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="DOMESTIC">
        <annotation>
          <documentation>Buying from domestic farmers.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="ABROAD">
        <annotation>
          <documentation>Buying services from abroad.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="SELF">
        <annotation>
          <documentation>Self-consumption.</documentation>
        </annotation>
      </enumeration>
      <enumeration value="OTHER">
        <annotation>
          <documentation>Other</documentation>
        </annotation>
      </enumeration>
    </restriction>
  </simpleType>
  <simpleType name="PaymentMethodTypeSType">
    <annotation>
      <documentation>Payment method type.</documentation>
    </annotation>
    <restriction base="string">
      <enumeration value="BANKNOTE">
        <annotation>
          <documentation>Banknotes and coins</documentation>
        </annotation>
      </enumeration>
      <enumeration value="CARD">
        <annotation>
          <documentation>Credit and debit card</documentation>
        </annotation>
      </enumeration>
      <enumeration value="CHECK">
        <annotation>
          <documentation>Bank check</documentation>
        </annotation>
      </enumeration>
      <enumeration value="SVOUCHER">
        <annotation>
          <documentation>Single-purpose voucher</documentation>
        </annotation>
      </enumeration>
      <enumeration value="COMPANY">
        <annotation>
          <documentation>Seller's company cards and similar</documentation>
        </annotation>
      </enumeration>
      <enumeration value="ORDER">
        <annotation>
          <documentation>Invoice not yet paid. It will be paid by summary invoice.</documentation>
        </annotation>
      </enumeration>
    </restriction>
  </simpleType>

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```

        <enumeration value="ACCOUNT">
          <annotation>
            <documentation>Transaction account</documentation>
          </annotation>
        </enumeration>
        <enumeration value="FACTORING">
          <annotation>
            <documentation>Factoring</documentation>
          </annotation>
        </enumeration>
        <enumeration value="COMPENSATION">
          <annotation>
            <documentation>Compensation</documentation>
          </annotation>
        </enumeration>
        <enumeration value="TRANSFER">
          <annotation>
            <documentation>Transfer of rights or debts</documentation>
          </annotation>
        </enumeration>
        <enumeration value="WAIVER">
          <annotation>
            <documentation>Waiver of debts</documentation>
          </annotation>
        </enumeration>
        <enumeration value="KIND">
          <annotation>
            <documentation>Payment in kind (clearing)</documentation>
          </annotation>
        </enumeration>
        <enumeration value="OTHER">
          <annotation>
            <documentation>Other cashless payments</documentation>
          </annotation>
        </enumeration>
      </restriction>
    </simpleType>
    <simpleType name="UTCSType">
      <annotation>
        <documentation>Date and time represented as UTC time with ISO 8601 format.</documentation>
      </annotation>
      <restriction base="dateTime">
        <pattern value="[0-9]{4}-[0-9]{2}-[0-9]{2}T[0-9]{2}:[0-9]{2}:[0-9]{2}([+-][0-9]{2}:[0-9]{2}|Z)"/>
      </restriction>
    </simpleType>
    <simpleType name="DateSType">
      <annotation>
        <documentation>Date expressed as year-month-day.</documentation>
      </annotation>
      <restriction base="date">
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