



TAX COMPLIANCE SYSTEM (TCS)

TCS API

Doc ID:	2153				
Version	Prepared by	Reviewed By	Approved by	Approval Date	Changes
1.0	Marcus Folkeryd	August Andersson	Sven Hammar	2025-01-21	Initial version
1.1	Marcus Folkeryd	August Andersson	Sven Hammar	2025-01-29	TLS Version Update

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1 Confidentiality clause

This document is an internal document of Infrasec Sweden AB and may not be redistributed, copied or changed in any form without a written permission of Infrasec Sweden AB.

2 Purpose

This document describes how to integrate with the TCS API for the Infrasec Tax Compliance System (TCS) from a server-based retail system.

3 Overview

The Infrasec Tax Compliance System (TCS) API enables individual registers – and register servers on behalf of its managed registers – to obtain control codes for VAT receipts according to Swedish Tax Authority (SKV) regulations. The TCS API enables secure connections to the centrally located TCS.

The Infrasec TCS API requires the use of X.509 certificates, which identify and secure transactions for a single register, a specific register server, an organization unit, or a full organization.

The register application that is using the TCS API must package the receipt in a simple XML object as described in this document and issue an HTTP post to the API with the receipt XML object as the request body. The XML object is validated to ensure Swedish tax authority format and securely forwarded to the TCS using TLS authenticated by the X.509 certificate.

The TCS handles several organization entities and organization numbers owning registers. Each register must be named uniquely within the TCS. Infrasec issues register identities to its customers that are guaranteed to be unique.

In the most unusual event of communication problems where both primary and secondary options (such as fixed lines or mobile connections) are unavailable, the register may enter offline mode with a unique receipt number series by issuing cash invoices ("kontantnota"). This solution is already accepted by the Swedish tax authority (SKV).

4 API Methods

Infrasec supplies different methods to integrate with the TCS where communication, register environment, sales application and customer organization impose what is preferred.

In the context below we mean *Client* when the register as a client application calls the TCS API. With *Server*, we mean that the register application is centralized and that an application server calls the TCS API on behalf of the register.

The Infrasec TCS API methods:

- Requests sent from a partner server that acts as an agent to the TCS for the POS Device.
- Requests sent from a merchant server acting as an agent to the TCS for the POS Device.
- Requests sent directly from POS Device to the TCS.

The request to the TCS is always sent over HTTPS but the preferred method may differ depending on the particular requirement and implementation of the POS application. The POS application may include the required certificates locally in the application, or in a local or remote proxy server.

The optimal communication solution for your POS services including certificate management is selected in cooperation with Infrasec.

5 Client or server/agent API

Depending on the selected integration method the TCS may be accessed either from the client register directly or from a server that acts on behalf of the registers. This is mainly a decision for the sales application.

For client-based integration every register accessing the TCS requires a *unique* X.509 certificate for the TLS communication. In this case, manual enrollment (onboarding) of X.509 certificates is not recommended. For the best methods to handle certificate enrollment in this case please contact Infrasec Sweden AB.

For server-based integration one X.509 certificate is allowed to act as an agent for multiple registers. This means that the agent X.509 certificate is handled manually and does not require automated enrollment (onboarding).

6 TCS API Overview

TCS API methods

The server/agent API is provided at the URL path /tcserver

The client API is provided at the URL path /tcsclient

XML root-level encapsulation tags:

<TcsRequest> The root-level XML request

<TcsResponse> The root-level XML response tag

Request types

The TCS accepts two types of requests:

1. ControlData requests, which accepts receipt VAT information and returns a control code.
2. RegisterStatus requests, which accepts a register id and checks its status in the TCS.

Common XML tags used by all request types

All TCS requests must contain the tags in the table below.

Tag	Content	Comment
<ApplicationID>	64 Alphanumeric characters	The identity of the POS application. This value is also returned in the response.

<RequestID>	64 Alphanumeric characters	A value uniquely identifying this request. This value is also returned in the response.
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7 ControlData request

A ControlData request sends receipt VAT data to the TCS, which returns a control code in response.

ControlData request overview

XML

```
<TcsRequest>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>eb21d507-c1c7-43e5-b2ac-139557df904d</RequestID>
  <ControlData>
    ... ControlData XML tags here
  </ControlData>
</TcsRequest>
```

ControlData request XML tags

Below are the tags needed to send a ControlData request.

Tag	Content	Comment
<DateTime>	14 Numeric characters: Format: YYYYMMDDtmmss	Date and time of the minute the receipt request is generated. Ex 20241224194532
OPTION: <CopyDateTime>	14 Numeric characters: Format: YYYYMMDDtmmss	Required when using <ReceiptType="kopia"/>
<OrgNr>	10 Numeric characters	Organization number of the selling organization using the register in this request.
<ManRegisterID>	16 Alphanumeric characters	Restricted: Unique register identity of this register

		and only used by one organization. Ex: EP01AB0101330001
OPTION: <RegisterAddress>	Max. 40 characters	Address of the POS register. If not sent, the POS register must have a valid address registered in the IDM.
<SequenceNumber>	12 Numeric characters	Receipt sequence number
OPTION: <CopySequenceNumber>	12 Numeric characters	Required when using <ReceiptTypeType="kopia"/>
<ReceiptType>	- normal - kopia - ovning - profo	Matching the receipt type for which this receipt request is executed. Ex: <ReceiptTypeType="normal"/>
OPTION: <SaleAmount>	11 ', 2 Numeric characters	A receipt must only contain Sale or Refund. Ex: <SaleAmount>100,00</SaleAmount>
OPTION: <RefundAmount>	11 ', 2 Numeric characters	A receipt must only contain Sale or Refund. Value is the absolute value of the refund amount. Ex: <RefundAmount>200,00</RefundAmount>
<VAT1> .. <VAT4>	<Percent> <Amount> <SubtotalAmount>	All four VAT sections must be provided even though they may not contain any percent or amount other than 0,00.
<Percent>	2', 2 Numeric characters	Normally 25, 12, 6 or 0 percent. Ex: <Percent>25,00</Percent> <Percent>12,00</Percent> <Percent>6,00</Percent> <Percent>0,00</Percent>
<Amount>	11', 2 Numeric characters	VAT is always positive.

<SubtotalAmount>	11',2 Numeric characters	Pre-VAT sales/refund amount for this VAT percentage.
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ControlData response XML tags

Tag	Content	Comment
<ResponseCode>	Response result code	Numeric value indicating response error code or success code. Success code is 0.
<ResponseMessage>	Response result text	Response code translated into message text
<ResponseReason>	Response result reason	Further information text describing the reason for a non success error response code
<ApplicationID>	64 Alphanumeric characters	Restricted: Value returned from request. Register application use this value to identify requests from application instances or versions.
<RequestID>	64 Alphanumeric characters	Restricted: Value returned from request. Register application use this value to identify individual requests
<SKVResponseCode>	STATUS_OK on success	Status codes defined by Swedish tax authority in SKVFS 2020:9 5 Kap 12 §
<SKVResponseMessage>	"Kvitto får skrivas ut" on success	Text defined by Swedish tax authority in SKVFS 2020:9 5 Kap 45 §
<ControlCode>	<ControlServerID> and <Code>	Contains the Control Server ID and control code

<ControlServerID>	17 Alphanumeric characters	The identity of the TCS Control Server to be written on the receipt together with the register identity
<Code>	113 characters	The control code to be stored together with the receipt data by the sales application.

8 RegisterStatus request

The RegisterStatus API call ensures that the POS Register is successfully bound to the TCS. A RegisterStatus request must be sent to the TCS every time the POS register is started.

RegisterStatus request overview

XML

```
<TcsRequest>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>eb21d507-c1c7-43e5-b2ac-139557df904d</RequestID>
  <RegisterStatus>
    ... RegisterStatus XML tags here
  </RegisterStatus>
</TcsRequest>
```

RegisterStatus request XML tags

Below are the tags needed to send a RegisterStatus request.

Tag	Content	Comment
<OrgNr>	10 Numeric characters	Organization number of the selling organization using the register in this request.
<ManRegisterID>	16 Alphanumeric characters	Restricted: Unique register identity of this register and only used by one organization. Ex: EP01AB0101330001

RegisterStatus response XML tags

Tag	Content	Comment
<ResponseCode>	Response result code	Numeric value indicating response error code or success code. Success code is 0.
<ResponseMessage>	Response result text	Response code translated into message text
<ResponseReason>	Response result reason	Further information text describing the reason for a non success error response code
<ApplicationID>	64 Alphanumeric characters	Restricted: Value returned from request. Register application use this value to identify requests from application instances or versions.
<RequestID>	64 Alphanumeric characters	Restricted: Value returned from request. Register application use this value to identify individual requests
<SKVResponseCode>	STATUS_OK on success	Status codes defined by Swedish tax authority in SKVFS 2020:9 5 Kap 12 §
<SKVResponseMessage>	“Kvitto får skrivas ut” on success	Text defined by Swedish tax authority in SKVFS 2020:9 5 Kap 45 §

9 Request Examples

9.1 Normal Sale

Request example

XML

```
<TcsRequest>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>eb21d507-c1c7-43e5-b2ac-139557df904d</RequestID>
  <ControlData>
    <DateTime>20241101130656</DateTime>
    <OrgNr>1212121212</OrgNr>
    <ManRegisterID>EX11212121212101</ManRegisterID>
    <RegisterAddress>Regeringsgatan 67, 111 56 Stockholm</RegisterAddress>
    <SequenceNumber>2021096159</SequenceNumber>
    <ReceiptType Type="normal" />
    <SaleAmount>116,26</SaleAmount>
    <VAT1>
      <Percent>25,00</Percent>
      <Amount>12,61</Amount>
      <SubtotalAmount>50,45</SubtotalAmount>
    </VAT1>
    <VAT2>
      <Percent>12,00</Percent>
      <Amount>5,70</Amount>
      <SubtotalAmount>47,50</SubtotalAmount>
    </VAT2>
    <VAT3>
      <Percent>6,00</Percent>
      <Amount>0,00</Amount>
      <SubtotalAmount>0,00</SubtotalAmount>
    </VAT3>
    <VAT4>
      <Percent>0,00</Percent>
      <Amount>0,00</Amount>
      <SubtotalAmount>0,00</SubtotalAmount>
    </VAT4>
  </ControlData>
</TcsRequest>
```

Response example

XML

```
<TcsResponse>
  <ResponseCode>0</ResponseCode>
  <ResponseMessage>Success</ResponseMessage>
  <ResponseReason>Success</ResponseReason>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>eb21d507-c1c7-43e5-b2ac-139557df904d</RequestID>
  <SKVResponseCode>STATUS_OK</SKVResponseCode>
  <SKVResponseMessage>Kvitto får skrivas ut</SKVResponseMessage>
  <SequenceNumber>2021096159</SequenceNumber>
  <ControlCode>
    <ControlServerID>ISTCSKS0000000000</ControlServerID>
    <Code>KQ26RZI0TP23LMXJ2KJ3AFMUXAYBCGWY;D463TGUPVVQGDXC74X7QNFCXRXXM4I5
    60JP52SSLKFPQ4BP0K2WAKZ5PB3F64IP7IX2VF70XJ7J5Q===</Code>
  </ControlCode>
</TcsResponse>
```

9.2 Normal Refund

Request example

XML

```
<TcsRequest>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>5e816555-7036-4c7a-9a66-86479ec48f37</RequestID>
  <ControlData>
    <DateTime>20241101135700</DateTime>
    <OrgNr>1212121212</OrgNr>
    <ManRegisterID>EX11212121212101</ManRegisterID>
    <RegisterAddress>Regeringsgatan 67, 111 56,
    Stockholm</RegisterAddress>
    <SequenceNumber>348071127</SequenceNumber>
    <ReceiptType Type="normal" />
    <RefundAmount>116,26</RefundAmount>
    <VAT1>
      <Percent>25,00</Percent>
      <Amount>12,61</Amount>
      <SubtotalAmount>50,45</SubtotalAmount>
    </VAT1>
    <VAT2>
      <Percent>12,00</Percent>
      <Amount>5,70</Amount>
      <SubtotalAmount>47,50</SubtotalAmount>
    </VAT2>
    <VAT3>
      <Percent>6,00</Percent>
      <Amount>0,00</Amount>
      <SubtotalAmount>0,00</SubtotalAmount>
    </VAT3>
    <VAT4>
      <Percent>0,00</Percent>
      <Amount>0,00</Amount>
      <SubtotalAmount>0,00</SubtotalAmount>
    </VAT4>
  </ControlData>
</TcsRequest>
```

Response example

XML

```
<TcsResponse>
  <ResponseCode>0</ResponseCode>
  <ResponseMessage>Success</ResponseMessage>
  <ResponseReason>Success</ResponseReason>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>5e816555-7036-4c7a-9a66-86479ec48f37</RequestID>
  <SKVResponseCode>STATUS_OK</SKVResponseCode>
  <SKVResponseMessage>Kvitto får skrivas ut</SKVResponseMessage>
  <SequenceNumber>348071127</SequenceNumber>
  <ControlCode>
    <ControlServerID>ISTCSKS0000000000</ControlServerID>
    <Code>OSLPBW6MBTN4EQMPCOY3ZQW6EYEWFGIB;7C60P65NLHOLXRW3EQ343BELPUFTFY3
    FTTS3VLMXAGBMYSFIU7LVVNYQ26RRFI7LCNAPB20DYNBQE===</Code>
  </ControlCode>
</TcsResponse>
```

9.3 Receipt Copy

Request example

XML

```
<TcsRequest>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>5e816555-7036-4c7a-9a66-86479ec48f37</RequestID>
  <ControlData>
    <DateTime>20241101135700</DateTime>
    <OrgNr>1212121212</OrgNr>
    <ManRegisterID>EX11212121212101</ManRegisterID>
    <RegisterAddress>Regeringsgatan 67, 111 56,
    Stockholm</RegisterAddress>
    <SequenceNumber>348071127</SequenceNumber>
    <CopySequenceNumber>3991056948</CopySequenceNumber>
    <CopyDateTime>20250127160148</CopyDateTime>
    <ReceiptType Type="kopia" />
    <SaleAmount>116,26</SaleAmount>
    <VAT1>
      <Percent>25,00</Percent>
      <Amount>12,61</Amount>
      <SubtotalAmount>50,45</SubtotalAmount>
    </VAT1>
    <VAT2>
      <Percent>12,00</Percent>
      <Amount>5,70</Amount>
      <SubtotalAmount>47,50</SubtotalAmount>
    </VAT2>
    <VAT3>
      <Percent>6,00</Percent>
      <Amount>0,00</Amount>
      <SubtotalAmount>0,00</SubtotalAmount>
    </VAT3>
    <VAT4>
      <Percent>0,00</Percent>
      <Amount>0,00</Amount>
      <SubtotalAmount>0,00</SubtotalAmount>
    </VAT4>
  </ControlData>
</TcsRequest>
```

Response example

XML

```
<TcsResponse>
  <ResponseCode>0</ResponseCode>
  <ResponseMessage>Success</ResponseMessage>
  <ResponseReason>Success</ResponseReason>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>5e816555-7036-4c7a-9a66-86479ec48f37</RequestID>
  <SKVResponseCode>STATUS_OK</SKVResponseCode>
  <SKVResponseMessage>Kvitto får skrivas ut</SKVResponseMessage>
  <SequenceNumber>3991056948</SequenceNumber>
  <ControlCode>
    <ControlServerID>ISTCSKS0000000011</ControlServerID>
    <Code></Code>
  </ControlCode>
</TcsResponse>
```

9.4 Exercise Receipt

Request example

XML

```
<TcsRequest>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>5e816555-7036-4c7a-9a66-86479ec48f37</RequestID>
  <ControlData>
    <DateTime>20241101135700</DateTime>
    <OrgNr>1212121212</OrgNr>
    <ManRegisterID>EX11212121212101</ManRegisterID>
    <RegisterAddress>Regeringsgatan 67, 111 56,
Stockholm</RegisterAddress>
    <SequenceNumber>348071127</SequenceNumber>
    <ReceiptType Type="ovning" />
    <SaleAmount>116,26</SaleAmount>
    <VAT1>
      <Percent>25,00</Percent>
      <Amount>12,61</Amount>
      <SubtotalAmount>50,45</SubtotalAmount>
    </VAT1>
    <VAT2>
      <Percent>12,00</Percent>
      <Amount>5,70</Amount>
      <SubtotalAmount>47,50</SubtotalAmount>
    </VAT2>
    <VAT3>
      <Percent>6,00</Percent>
      <Amount>0,00</Amount>
      <SubtotalAmount>0,00</SubtotalAmount>
    </VAT3>
    <VAT4>
      <Percent>0,00</Percent>
      <Amount>0,00</Amount>
      <SubtotalAmount>0,00</SubtotalAmount>
    </VAT4>
  </ControlData>
</TcsRequest>
```

Response example

XML

```
<TcsResponse>
  <ResponseCode>0</ResponseCode>
  <ResponseMessage>Success</ResponseMessage>
  <ResponseReason>Success</ResponseReason>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>5e816555-7036-4c7a-9a66-86479ec48f37</RequestID>
  <SKVResponseCode>STATUS_OK</SKVResponseCode>
  <SKVResponseMessage>Kvitto får skrivas ut</SKVResponseMessage>
  <SequenceNumber>348071127</SequenceNumber>
  <ControlCode>
    <ControlServerID>ISTCSKS0000000011</ControlServerID>
    <Code></Code>
  </ControlCode>
</TcsResponse>
```

9.5 Proforma Receipt

Request example

XML

```
<TcsRequest>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>5e816555-7036-4c7a-9a66-86479ec48f37</RequestID>
  <ControlData>
    <DateTime>20241101135700</DateTime>
    <OrgNr>1212121212</OrgNr>
    <ManRegisterID>EX11212121212101</ManRegisterID>
    <RegisterAddress>Regeringsgatan 67, 111 56,
Stockholm</RegisterAddress>
    <SequenceNumber>348071127</SequenceNumber>
    <ReceiptType Type="profo" />
    <SaleAmount>116,26</SaleAmount>
    <VAT1>
      <Percent>25,00</Percent>
      <Amount>12,61</Amount>
      <SubtotalAmount>50,45</SubtotalAmount>
    </VAT1>
    <VAT2>
      <Percent>12,00</Percent>
      <Amount>5,70</Amount>
      <SubtotalAmount>47,50</SubtotalAmount>
    </VAT2>
    <VAT3>
      <Percent>6,00</Percent>
      <Amount>0,00</Amount>
      <SubtotalAmount>0,00</SubtotalAmount>
    </VAT3>
    <VAT4>
      <Percent>0,00</Percent>
      <Amount>0,00</Amount>
      <SubtotalAmount>0,00</SubtotalAmount>
    </VAT4>
  </ControlData>
</TcsRequest>
```

Response example

XML

```
<TcsResponse>
  <ResponseCode>0</ResponseCode>
  <ResponseMessage>Success</ResponseMessage>
  <ResponseReason>Success</ResponseReason>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>5e816555-7036-4c7a-9a66-86479ec48f37</RequestID>
  <SKVResponseCode>STATUS_OK</SKVResponseCode>
  <SKVResponseMessage>Kvitto får skrivas ut</SKVResponseMessage>
  <SequenceNumber>348071127</SequenceNumber>
  <ControlCode>
    <ControlServerID>ISTCSKS0000000011</ControlServerID>
    <Code></Code>
  </ControlCode>
</TcsResponse>
```

9.6 Register Status

Request example

XML

```
<TcsRequest>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>5e816555-7036-4c7a-9a66-86479ec48f37</RequestID>
  <RegisterStatus>
    <OrgNr>1212121212</OrgNr>
    <ManRegisterID>EX112121212101</ManRegisterID>
  </RegisterStatus>
</TcsRequest>
```

Response example

XML

```
<TcsResponse>
  <ResponseCode>0</ResponseCode>
  <ResponseMessage>Success</ResponseMessage>
  <ResponseReason>Success</ResponseReason>
  <ApplicationID>POS Application</ApplicationID>
  <RequestID>5e816555-7036-4c7a-9a66-86479ec48f37</RequestID>
  <SKVResponseCode>STATUS_OK</SKVResponseCode>
</TcsResponse>
```