

# Online filing of annual reports

Connection guidelines

Version 1.7

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## 1 Version history

Version	Date	Description
1.0	2018-03-01	Added information about production environment
1.1	2018-10-04	Described what a software vendor must do to receive e-mail from the acceptance test environment. Adjusted endpoints to test and acceptance test environments and incremented version of amended services to v1.1.
1.1	2019-01-16	Incremented version of revised services and added new service ‘/inlamning-status’.
1.2	2019-10-23	Incremented version of revised service and removed service ‘/inlamning-status’
1.3	2020-06-16	Updated information about Expisoft/Steria CA valid from 2020-06-01.
1.3.1	2020-11-20	New version of /hamta-arsredovisningshandlingar
1.3.2	2021-06-01	New version of /hantera-arsredovisningsprenumerationer
1.3.3	2022-03-20	New version of /lamna-in-arsredovisning
1.3.4	2022-05-21	New version of /hamta-arsredovisningshandlingar as well as new service /skapa-kontrollsumma
1.3.5	2022-08-24	New version of /skapa-kontrollsumma
1.4.0	2022-09-08	Added ESEF services
1.4.1	2022-12-21	Correction of some ESEF links.
1.4.2	2023-11-14	Correction that firewall opening is not needed for production environment + changed email address chapter 4.1 and 5.5.
1.5	2024-02-27	Added service /hamta-arsredovisningsstatistik
1.6	2024-08-14	New version of /hamta-arsredovisningsinformation, /lamna-in-arsredovisning-asynkront, /hantera-arsredovisningsprenumerationer and /hamta-arsredovisningshandlingar
1.7	2024-02-06	New api version /hamta-arsredovisningsinformation

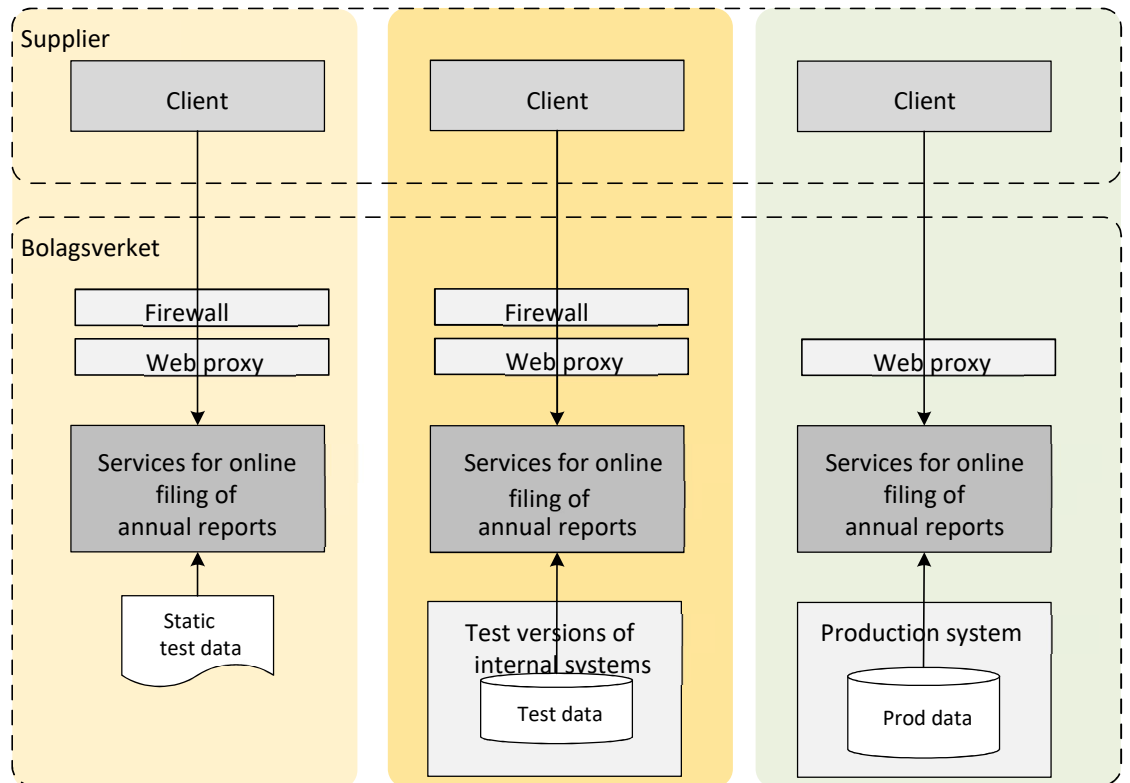
## 2 Introduction

Connection to the services for online filing of annual reports requires that the connected party be given access to the services in Bolagsverket's (Swedish Company Registration Office) environments. In addition, the connecting party must authenticate itself with its organization certificate.

The purpose of this document is to describe what a connected party needs to do in order to access the test, acceptance and production environments. Chapter 3 contains an overview of the environments and how the services are secured.

The requirements for successful connection to the test, acceptance and production environments are described in chapters 0, 5 and 6 respectively.

### 3 Overview of the environments



Bolagsverket has three different environments for online filing of annual reports in operation concurrently:

- a test environment (pale yellow, on the left) which only delivers static test data
- an acceptance environment for acceptance testing (yellow, middle) which retrieves test data from test versions of Bolagsverket's internal systems
- a production environment (green, on the right).

All three environments are alike in that access to the services within them are protected by web proxies. The two test environments are additionally protected by firewalls.

### 3.1 Endpoints in the test environment

The following endpoints apply to the services in Bolagsverket's test environment:

**Test bench:**

<https://arsredovisning-accept2.bolagsverket.se/testbank/>

**Services:**

Information services

<https://api-accept2.bolagsverket.se/testapi/hamta-arsredovisningsinformation/v1.4/grunduppgifter/{orgnr}>

<https://api-accept2.bolagsverket.se/testapi/hamta-arsredovisningsinformation/v1.4/arendestatus/{orgnr}>

<https://api-accept2.bolagsverket.se/testapi/hamta-arsredovisningsinformation/v1.1/skapa-inlamningtoken/> (POST)

<https://api-accept2.bolagsverket.se/testapi/hamta-arsredovisningsinformation/v1.1/skapa-kontrollsumma/{token}> (POST)

Services for filing K2, K3 and K3K

<https://api-accept2.bolagsverket.se/testapi/lamna-in-arsredovisning/v2.1/skapa-inlamningtoken/> (POST)

<https://api-accept2.bolagsverket.se/testapi/lamna-in-arsredovisning/v2.1/kontrollera/{token}> (POST)

<https://api-accept2.bolagsverket.se/testapi/lamna-in-arsredovisning/v2.1/inlamning/{token}> (POST)

Services for filing ESEF and/or CSRD

<https://api-accept2.bolagsverket.se/testapi/lamna-in-arsredovisning-asykront/v2.0/skapa-inlamningtoken/> (POST)

<https://api-accept2.bolagsverket.se/testapi/lamna-in-arsredovisning-asykront/v2.0/inlamning/{token}> (POST)

<https://api-accept2.bolagsverket.se/testapi/lamna-in-arsredovisning-asykront/v2.0/valideringsresultat/{idnummer}> (POST)

Services for annual report events

<https://api-accept2.bolagsverket.se/testapi/hantera-arsredovisningsprenumerationer/v2.0/handelseprenumeration/> (POST)

<https://api-accept2.bolagsverket.se/testapi/hantera-arsredovisningsprenumerationer/v2.0/handelseprenumeration/> (DELETE)

<https://api-accept2.bolagsverket.se/testapi/hantera-arsredovisningsprenumerationer/v2.0/handelseprenumeration/> (GET)

<https://api-accept2.bolagsverket.se/testapi/hamta-arsredovisningshandlingar/v2.0/handelser/> (POST)

Valid registration numbers for tests are 1234567890 and 1234567891. Refer to [Service specifications](#) and [Technical guide](#) for more information about the services.

### 3.2 Endpoints in the acceptance environment

The following endpoints apply to the services in Bolagsverket's acceptance environment:

**Signing and delivery:**

<https://arsredovisning-accept2.bolagsverket.se/lamna-in/>

**Services:**

Information services

<https://api-accept2.bolagsverket.se/hamta-arsredovisningsinformation/v1.4/grunduppgifter/{orgnr}>

<https://api-accept2.bolagsverket.se/hamta-arsredovisningsinformation/v1.4/arendestatus/{orgnr}>

<https://api-accept2.bolagsverket.se/hamta-arsredovisningsinformation/v1.1/skapa-inlamningtoken/> (POST)

<https://api-accept2.bolagsverket.se/hamta-arsredovisningsinformation/v1.1/skapa-kontrollsumma/{token}> (POST)

Services for filing K2, K3 and K3K

<https://api-accept2.bolagsverket.se/lamna-in-arsredovisning/v2.1/skapa-inlamningtoken/> (POST)

<https://api-accept2.bolagsverket.se/lamna-in-arsredovisning/v2.1/kontrollera/{token}> (POST)

<https://api-accept2.bolagsverket.se/lamna-in-arsredovisning/v2.1/inlamning/{token}> (POST)

#### Services for filing ESEF and/or CSRD

<https://api-accept2.bolagsverket.se/lamna-in-arsredovisning-asynkront/v2.0/skapa-inlamningtoken> (POST)

<https://api-accept2.bolagsverket.se/lamna-in-arsredovisning-asynkront/v2.0/inlamning/{token}> (POST)

<https://api-accept2.bolagsverket.se/lamna-in-arsredovisning-asynkront/v2.0/valideringsresultat/{idnummer}> (POST)

#### Services for annual report events

<https://api-accept2.bolagsverket.se/hantera-arsredovisningsprenumerationer/v2.0/handelseprenumeration/> (POST)

<https://api-accept2.bolagsverket.se/hantera-arsredovisningsprenumerationer/v2.0/handelseprenumeration/> (DELETE)

<https://api-accept2.bolagsverket.se/hantera-arsredovisningsprenumerationer/v2.0/handelseprenumeration/> (GET)

<https://api-accept2.bolagsverket.se/hamta-arsredovisningshandlingar/v2.0/handelser/> (POST)

#### Services for statistics for annual reports

<https://api-accept2.bolagsverket.se/hamta-arsredovisningsstatistik/v1.0/statistik/allman/ankomstdatum> (POST)

<https://api-accept2.bolagsverket.se/hamta-arsredovisningsstatistik/v1.0/statistik/allman/registreringsdatum> (POST)

<https://api-accept2.bolagsverket.se/hamta-arsredovisningsstatistik/v1.0/statistik/programvara/> (POST)

<https://api-accept2.bolagsverket.se/hamta-arsredovisningsstatistik/v1.0/statistik/programvara/separatrevisionsberattelse/> (POST)

<https://api-accept2.bolagsverket.se/hamta-arsredovisningsstatistik/v1.0/statistik/programvara/kontroller/> (POST)

#### Utility Services for statistics for annual reports

<https://api-accept2.bolagsverket.se/hamta-arsredovisningsstatistik/v1.0/stodtjanster/programvaror/> (GET)

### 3.3 Endpoints in the production environment

The following endpoints apply to the services in Bolagsverket's production environment:

#### **Signing and delivery:**

<https://arsredovisning-accept2.bolagsverket.se/lamna-in/>

#### **Services:**

##### Information services

<https://api.bolagsverket.se/hamta-arsredovisningsinformation/v1.4/grunduppgifter/{orgnr}>

<https://api.bolagsverket.se/hamta-arsredovisningsinformation/v1.4/arendestatus/{orgnr}>

<https://api.bolagsverket.se/hamta-arsredovisningsinformation/v1.1/skapa-inlamningtoken/> (POST)

<https://api.bolagsverket.se/hamta-arsredovisningsinformation/v1.1/skapa-kontrollsumma/{token}> (POST)

##### Services for filing K2, K3 and K3K

<https://api.bolagsverket.se/lamna-in-arsredovisning/v2.1/skapa-inlamningtoken/> (POST)

<https://api.bolagsverket.se/lamna-in-arsredovisning/v2.1/kontrollera/{token}> (POST)

<https://api.bolagsverket.se/lamna-in-arsredovisning/v2.1/inlamning/{token}> (POST)

##### Services for filing ESEF and/or CSRD

<https://api.bolagsverket.se/lamna-in-arsredovisning-asynkront/v2.0/skapa-inlamningtoken> (POST)

<https://api.bolagsverket.se/lamna-in-arsredovisning-asynkront/v2.0/inlamning/{token}> (POST)

<https://api.bolagsverket.se/lamna-in-arsredovisning-asynkront/v2.0/valideringsresultat/{idnummer}> (POST)

##### Services for annual report events

<https://api.bolagsverket.se/hantera-arsredovisningsprenumerationer/v2.0/handelseprenumeration/> (POST)

<https://api.bolagsverket.se/hantera-arsredovisningsprenumerationer/v2.0/handelseprenumeration/>  
(DELETE)

<https://api.bolagsverket.se/hantera-arsredovisningsprenumerationer/v2.0/handelseprenumeration/> (GET)

<https://api.bolagsverket.se/hamta-arsredovisningshandlingar/v2.0/handelser/> (POST)

#### Services for statistics for annual reports

<https://api.bolagsverket.se/hamta-arsredovisningsstatistik/v1.0/statistik/allman/ankomstdatum> (POST)

<https://api.bolagsverket.se/hamta-arsredovisningsstatistik/v1.0/statistik/allman/registreringsdatum>  
(POST)

<https://api.bolagsverket.se/hamta-arsredovisningsstatistik/v1.0/statistik/programvara/> (POST)

<https://api.bolagsverket.se/hamta-arsredovisningsstatistik/v1.0/statistik/programvara/separatrevisionsberattelse/> (POST)

<https://api.bolagsverket.se/hamta-arsredovisningsstatistik/v1.0/statistik/programvara/kontroller/> (POST)

<https://api.bolagsverket.se/hamta-arsredovisningsstatistik/v1.0/statistik/programvara/kontroller/> (POST)

#### Utility Services for statistics for annual reports

<https://api.bolagsverket.se/hamta-arsredovisningsstatistik/v1.0/stodtjanster/programvaror/> (GET)

## 4 Access to the test environment

Because the services in the test environment only deliver static test data, access does not require client authentication. Bolagsverket's server accepts connections with HTTPS from all the clients allowed to pass through the firewall.

### 4.1 Firewall opening

Request firewall port opening by emailing [api@bolagsverket.se](mailto:api@bolagsverket.se). State which external IP address (or external IP address range) will be used to connect to the test environment so that Bolagsverket can process the order.

Clients can carry out the following plausibility checks before ordering:

1. Check that the IP address/IP address range is *not* in a private IP address range. An IP address is private if it is within one of the following intervals:

From	To
10.0.0.0	10.255.255.255
172.16.0.0	172.31.255.255
192.168.0.0	192.168.255.255

2. Use a browser in the test environment in order to visit <http://www.whatsmyip.org/> or a similar service. The IP address shown there should be within the IP address range required for the order.

When notified by Bolagsverket's contact person that the firewall port opening is ready, the client can verify this by making a telnet link to:

- Host: `arsredovisning-accept2.bolagsverket.se`
- Port: 443

Tests can, for example, be done with PuTTY. If the client is allowed in to Bolagsverket's test environment, PuTTY will not report any error.

If the firewall port opening hasn't worked, PuTTY will (after a while) show the following error:



If an error occurs, check first that the correct host and port are being used, that communication has passed out through the client's firewalls and that the client's external

IP address is the same as was stated at the time of the order. If it still isn't working, get in touch with the contact person with Bolagsverket for help with troubleshooting.

## 4.2 Trusting Bolagsverket's server certificate

In the test environment, Bolagsverket uses a server certificate with the following DN:

```
CN = *.BOLAGSVERKET.SE, OU = IT, O = Bolagsverket, L = SUNDSVALL, C = SE
```

Bolagsverket's server certificate is a 'domain validation certificate' issued by TeliaSonera. In order to communicate with Bolagsverket via HTTPS, the client must therefore trust the certificate authority with the following root certificate:

```
CN = TeliaSonera Root CA v1, O = TeliaSonera
```

### 4.2.1 Connecting by browser

Because common browsers such as Internet Explorer, Firefox and Chrome already have this root certificate installed, it is a good idea if clients first verify that the browser can access one of the services in the test environment. Older versions of these browsers may not have TeliaSonera's root certificate installed.

### 4.2.2 Connecting with client software

TeliaSonera's root certificate is not normally bundled in SDKs for development. Java JDK from Oracle is one example of this. Therefore the certificate needs to be downloaded from TeliaSonera's website and installed/saved so that it is available in the environment which will run the client software. Download the certificate here: <https://repository.trust.teliasonera.com/teliasonerarootca1.cer>

If a client tries to connect to the test benches or services without trusting the right root certificate, the connection will fail. How this failure is manifested depends on the technical platform. Below is an example of an exception, which indicates this failure for a client connection implemented in Java:

```
javax.net.ssl.SSLHandshakeException: sun.security.validator.ValidatorException: PKIX  
path building failed: sun.security.provider.certpath.SunCertPathBuilderException:  
unable to find valid certification path to requested target
```

## 5 Access to services in the acceptance environment

The services in the acceptance environment deliver production-like test data from Bolagsverket's test versions of internal systems. Further client authentication and authorization is therefore needed in order to gain access to the services.

### 5.1 Firewall opening

No further firewall port opening is needed, provided that the clients test environment is the same as the one the opening was ordered for previously. (section 4.1)

### 5.2 Trusting Bolagsverket's server certificate

The same service certificate that is used in the test environment as described in section 4.2 is also used in the acceptance environment.

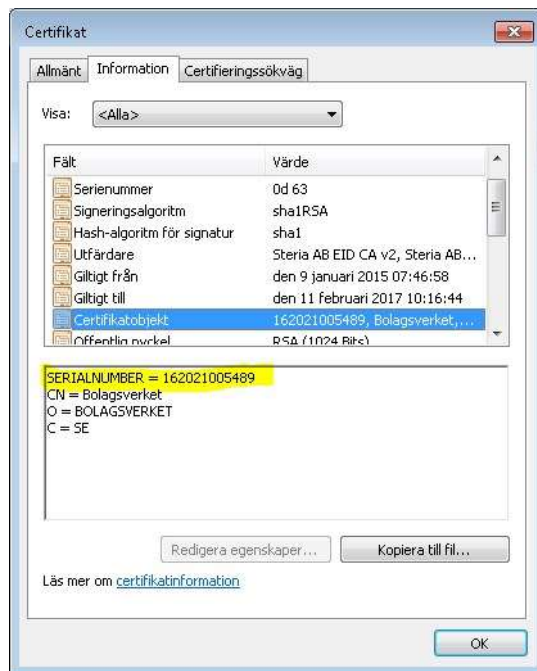
### 5.3 Authenticating the client's organization certificate

The client (and/or any web proxies the client has) must be configured so that an organization certificate issued by Expisoft/Steria is sent in the TLS handshake with the services. The organization certificate must be issued with a root certificate from Expisoft/Steria with any of the following DN:

- `CN=ExpiTrust Test CA v8,O=Expisoft AB,C=SE`
- `CN=ExpiTrust test CA v7,O=Expisoft AB,C=SE`
- `CN=ExpiTrust EID CA v4,O=Expisoft AB,C=SE`
- `CN=Steria AB EID CA v2,O=Steria AB,C=SE`

The wording 'issued with root certificate' means that there is an unbroken chain of valid certificates from the organization certificate to the root certificate with the DN above.

The organization certificate must contain a SERIALNUMBER with 16 as the prefix plus the client's ten digit company registration number in the certificate's DN. See the example below which shows Bolagsverket's own organization certificate issued by Expisoft/Steria:



The certificate must be valid too so the certificate in the example would not work after 11 February 2017.

If the client already has integrations with government agency services, such as the Swedish Tax Agency's service Navet, it is likely that the client already has an organization certificate issued by Expisoft/Steria, which can be used for the annual report services too. If not, an organization certificate (or 'Server identification/Organizational identification' as it is called by Expisoft) can be ordered at <https://eid.expisoft.se/en/order-e-identification/>. The server identification must have at least 'Customer identification (who connects to an e-service' usage level. A certificate used for that purpose is also called client certificate.

If the organization certificate is managed correctly by the client, a REST request to one of the services will pass through the web proxy and reach the services which will answer with a 403 Forbidden response until the client is authorize according to section 5.4.

If there is an error, check first that access according to section 5.1 and 5.2 still works and that an organization certificate, as described above, is sent with the TLS handshake for Bolagsverket's services. If it still doesn't work, get in touch with Bolagsverket's contact person for help with troubleshooting.

## 5.4 Client authorization

The last step in gaining access to the services is client authorization. Order authorization by getting in touch with the contact person at Bolagsverket. The order must contain the client's ten digit company registration number and is done when the service agreement is signed. The ten digit registration number must be the same as the last ten digits of the registration number for the organization certificate.

When the contact person at Bolagsverket notifies the client that the order has been registered, they can do the same REST request as described in section 5.3 to one of the services that now will answer with a 200 OK.

## 5.5 Outgoing e-mail

The services in the acceptance test environment may send outgoing e-mail to parties outside Bolagsverket (this in contrast to the other test environments, which may not send outgoing e-mail). E-mail is sent from the acceptance test environment at these moments:

- When an annual report is sent to Bolagsverket by software if the person invited to sign the annual report may be notified by e-mail.
- When the annual report is signed in the web service, using the facility for mailing a receipt to one or more e-mail recipients.

All outgoing e-mail from the acceptance test environment is filtered through a firewall that only allows forwarding to the domains gmail.com and hotmail.com. In order to test the outgoing mail facility, software vendors must use an e-mail address in one of these two domains.

Furthermore, the specific e-mail address(es) must be white-listed (specifically permitted for forwarding) by Bolagsverket. White-listing of e-mail addresses is done by mailing [api@bolagsverket.se](mailto:api@bolagsverket.se). This mail should contain the exact e-mail addresses that are to be white-listed.

## 6 Access to services in the production environment

The services in the production environment deliver real data from Bolagsverket's internal systems. More client authentication and authorization is therefore needed in order to gain access to the services.

### 6.1 Firewall opening

No firewall opening is needed for requests to the production environment.

### 6.2 Trusting Bolagsverket's server certificate

The same service certificate that is used in the test environment as described in section 4.2 is also used in the production environment.

### 6.3 Authentication of the client's organization certificate

The client (and/or any web proxies the client has) must be configured so that an organization certificate issued by Expisoft/Steria is sent in the TLS handshake with the services. The organization certificate must be issued with a root certificate from Expisoft/Steria for production use with any of the following DN:

- `CN=ExpiTrust EID CA v4,O=Expisoft AB,C=SE`
- `CN=Steria AB EID CA v2,O=Steria AB,C=SE`

### 6.4 Client authorization

The access granted to the acceptance environment services is also valid for the production environment, see section 5.4. No separate order is required to gain access to the production environment.

### 6.5 Outgoing e-mail

The production services send e-mail at the same times as the services in the acceptance test environment (see 5.5). E-mails sent by these services in the production environment are not filtered by domain or e-mail address – no white-listing is necessary.