Digitaliseringsstyrelsen

KFOBS
Signature Validation Certificates

Signature validation in NemLog-in and Signing Service

Version: 1.1

ID: 32309

2016-08-29

nnit
Conscience driven. Value adding

Description

1.1 Overview

The purpose of this document is to guide the service providers on which certificate to use to perform signature validation of the responses from NemLog-in and Signing Service. The validation of responses is related to implementation of *NemLog-in*, *Attribute service, Security Token Service* (a part of NemLog-in) and *Signing Service.* The certificates are listed below and the services has been linked to the certificate which should be used to verify the signature.

1.2 Signature validation

All the responses from NemLog-in and Signing Service are XML responses. All the responses sent from NemLog-in and Signing Service will be signed by NemLog-in and Signing Service certificates. As a service provider you must use the *public certificate* to verify that the responses returned has been issued by *NemLog-in* / *Signing service* and not been modified – this will prevent for instance "man in the middle attacks". Please note that all service providers are required to implement this check in their integration to *NemLog-in* and *Signing Service*.

1.3 Signature validation of NemLog-in assertions

The *NemLog-in* assertion is the decrypted response from *NemLog-in.* Once you as service provider recieves the token you must verify the signature by using the certificate from the IdP metadata.

1.3.1 IdP certificates – OIOSAML

When an IT-system receives an assertion from NemLog-in then the assertion must be verified to ensure that it originates from *NemLog-in* by using the certificate stored in the IDP metadata file.

Note there are two sets of IdP Metadata, which each contain a set of certificate, one for test and one for production. The link below is the direct for download the IdP certificate stored in the metadata as a base64 certificate file.

Production: https://test-nemlog-in.dk/Testportal/Prod-nemlog-in-2-2014.xml
Test: https://test-nemlog-in.dk/Testportal/Test-nemlog-in-2.xml

1.3.2 IdP certificates – Virk legacy

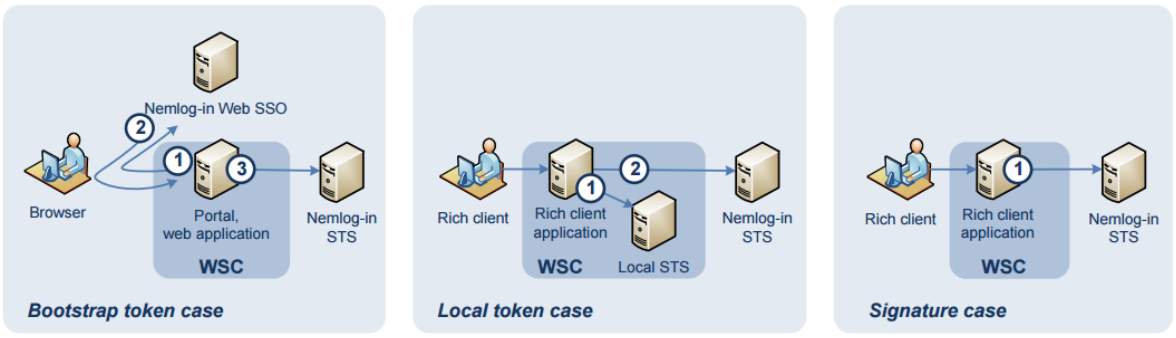
This section describes the scenario, where the service provide uses the virk profile.

Note there are two sets of IdP Metadata, which each contain a set of certificate, one for test and one for production. The link below is the direct for download the IdP certificate stored in the metadata as a base64 certificate file.

Test: https://test-nemlog-in.dk/Testportal/Test-nemlog-in-2Virk.xml
Production: https://test-nemlog-in.dk/Testportal/Prod-nemlog-in-2Virk-2014.xml

1.4 Signature validation – Security Token Service

As a service provider there is a couple of scenarios where you can get an assertion in return from Security Token Service. There are 3 different scenarios of Security Token Service. Bootstrap Token Case, Signature case and Local Token Case. [1]



Figur 1: Flow in STS for each scenario

1.4.1 Bootstrap Token Case

In the bootstrap scenario you will need to use to verify the assertion received from NemLog-in by using the *IdP metadata* certificate described in section 1.3.1. You will need to validate the NemLog-in assertion as you usually do in the NemLog-in Web SSO scenario. Furthermore you will need to validate the signature from the STS. The validation is the same for all 3 scearios. More details in the next section.

[1] References - Link to STS documentation for more inforamtion

1.4.2 WSC/WSP verification of response and assertion

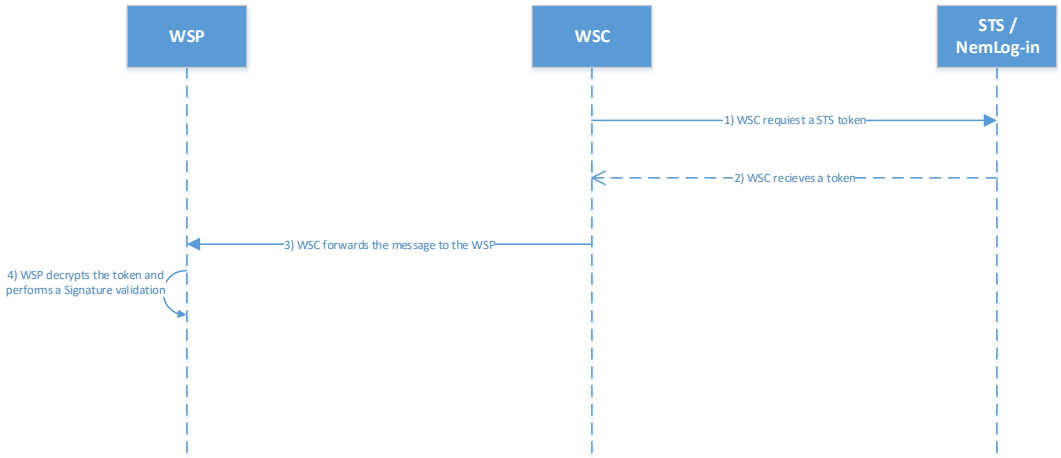
For all the scenarios you will need to verify the *assertion* and the *response* from STS/NemLog-in.

WSC: The WSC makes a request to NemLog-in/STS and receives a response which includes a signature in which can tell if the issued token was sent from NemLog-in/STS. Before sending it to the WSP. The WSC shuld perform a XMLDSIG verification of the response

WSP: The WSP decrypts the assertion received from the WSC and performs a XMLDSIG of the decrypted *assertion*

1.4.3 WSP/WSC verification flows

As described in section 1.4.2 here is the flow



Figur 2: STS flows

1) The WSC requests a token
2) The token received from STS needs to be verified that it has been issued by NemLog-in
3) The WSC forwards the token to the WSP
4) The WSP decrypts the token and validates that the assertion has been sent by NemLog-in/STS

Test: https://test-nemlog-in.dk/Testportal/certifikater/TestSTSCertificate.zip

Produktion: https://test-nemlog-in.dk/Testportal/certifikater/ProductionSTSCertificate.zip

1.5 Signature validation – Signing Service

The signature validation in Signing Service is required. To validate the signature of Signing Service the service provider needs to perform a validation of the response received. See the Signing Service documentation for more information[2] section 7. Note that signing service also got a service in which you can verify your signature proof. More of that in section 9.

Test: https://test-nemlog-in.dk/Testportal/certifikater/SSTestSigning.zip

Produktion: https://test-nemlog-in.dk/Testportal/certifikater/SSProduktionSigning.zip

[2] References - Link to Signing Service

2 References

- Link to STS documentation: https://test-nemlog-in.dk/Testportal/dokumenter/NemLog-in2%20-%20STS.pdf

- Link to Signing Service: https://test-nemlog-in.dk/Testportal/dokumenter/NemLog-in2%20-%20signing%20service.pdf

3 Change log

Date	Version	Description of Changes	Initials
2016-08-24	1.0	Initiel version	KSLR
2016-08-29	1.1	Approved	TMLN