Time Stamp Option Pack

nShield® HSM Integration Guide for Microsoft 365

2024-02-12

Member of
Microsoft Intelligent
Security Association

Microsoft Security

Table of Contents

1. Introduction . . . 1

    1.1. Requirements . . . 1

2. Setup . . . 2

    2.1. Install the root certificate of TSS on the client machine . . . 2

    2.2. Edit the registry settings . . . 4

3. Procedures . . . 5

    3.1. Add a signature line to a document . . . 5

    3.2. Sign the signature line in a document . . . 6

4. Troubleshooting . . . 8

5. Additional resources and related products . . . 9

    5.1. nShield Connect . . . 9

    5.2. nShield as a Service . . . 9

    5.3. Entrust digital security solutions . . . 9

    5.4. nShield product documentation . . . 9

Chapter 1. Introduction

Microsoft 365 (previously called Microsoft Office) is a productivity suite for Microsoft Windows. The Microsoft 365 applications include Microsoft Word, Microsoft Excel, and Microsoft PowerPoint. Microsoft 365 also permits users to create, control, and digitally sign documents.

You can integrate Microsoft 365 with a Entrust Time Stamp Option Pack to permit the use of time stamping to seal documents. The Entrust Time Stamp Option Pack is referred to in this guide as Time Stamp Server (TSS). TSS is a time stamp appliance, which uses the industry-standard IETF RFC 3161 protocol to provide time stamps. TSS also provides a secure auditable trail of time for the purposes of nonrepudiation. In this way, you can time stamp an Microsoft document to validate that document's authenticity at the time it was time stamped.

1.1. Requirements

Entrust has successfully tested the integration between TSS and Microsoft 365 in the following configurations:

Operating System	Microsoft 365 version	TSS version	HSM	Security World Version	Firmware
Microsoft Windows Server 2019 (x64)	Microsoft 365 2022	8.0	Solo XC	12.80.5	12.80.5

Entrust recommends that you allow only unprivileged connections unless you are performing administrative tasks.

Chapter 2. Setup

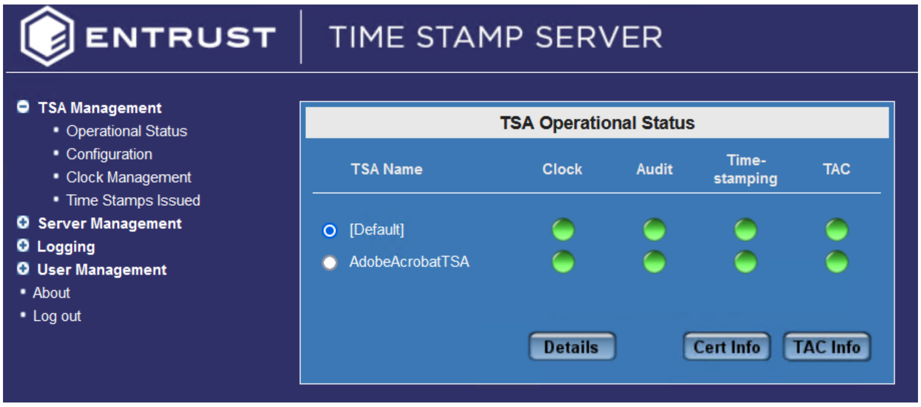
To enable Microsoft 365 to use a specified TSS appliance for its default time stamp service, you must:

- Install the root certificate of TSS on the client machine.
- Edit the registry settings.

2.1. Install the root certificate of TSS on the client machine

To install the root certificate of TSS on the client machine:

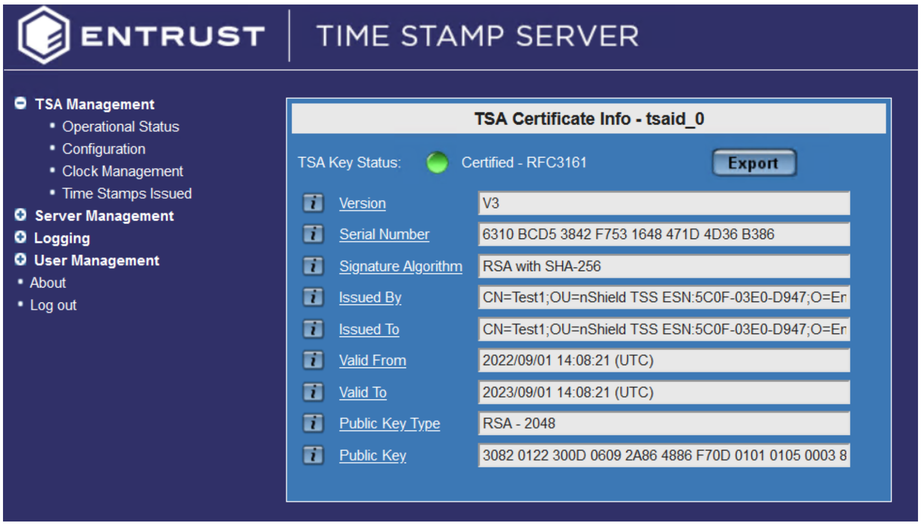
1. Log into the TSS as the security officer (**superuser**).
2. In the left pane, navigate to **TSA Management** > **Operational Status**. For example:



TSA Operational Status

	TSA Name	Clock	Audit	Time-stamping	TAC
●	[Default]	●	●	●	●
○	AdobeAcrobatTSA	●	●	●	●

3. Select the **TSA Name**, then select **Cert Info**.
4. Select the certificate and **Export** it to a `.cer` file. For example:



TSA Certificate Info - tsaid_0

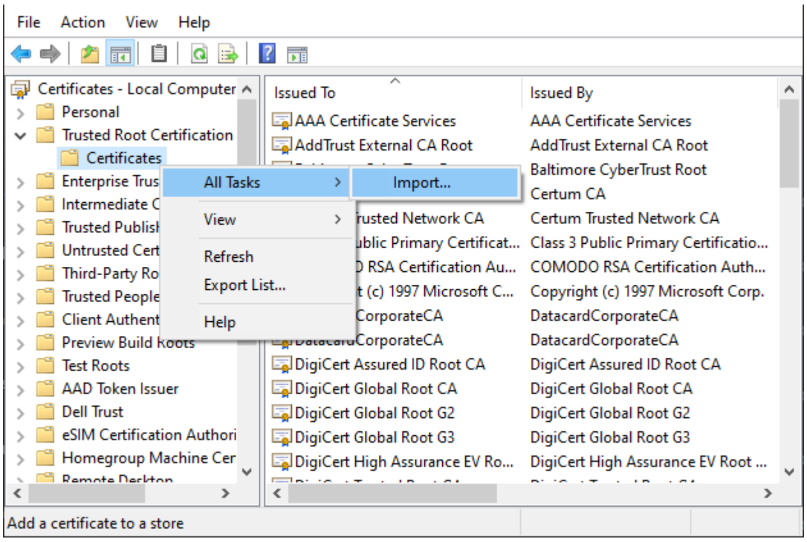
TSA Key Status: Certified - RFC3161

Version	V3
Serial Number	6310 BCD5 3842 F753 1648 471D 4D36 B386
Signature Algorithm	RSA with SHA-256
Issued By	CN=Test1;OU=nShield TSS ESN:5C0F-03E0-D947;O=Er
Issued To	CN=Test1;OU=nShield TSS ESN:5C0F-03E0-D947;O=Er
Valid From	2022/09/01 14:08:21 (UTC)
Valid To	2023/09/01 14:08:21 (UTC)
Public Key Type	RSA - 2048
Public Key	3082 0122 300D 0609 2A86 4886 F70D 0101 0105 0003 8

5. On the client machine, enter **certmgr** on the Windows **Start** menu to start the Microsoft Certificate Manager.

6. In the left pane, navigate to **Certificates** > **Trusted Root Certificate Authorities** > **Certificates**.

7. Import the exported `.cer` file. For example:



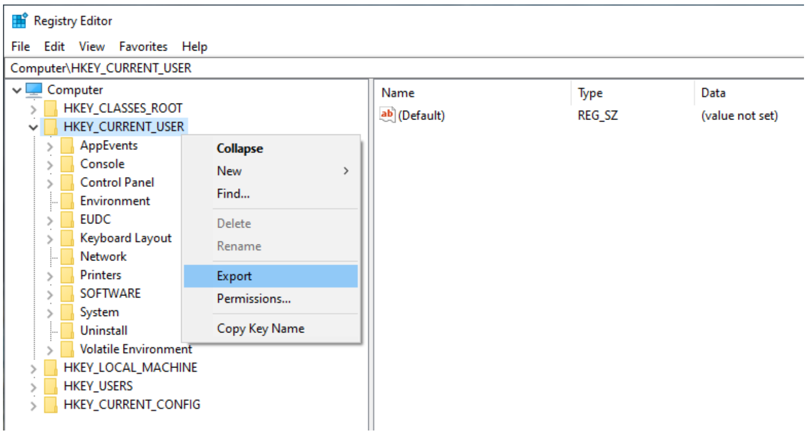
Issued To	Issued By
AAA Certificate Services	AAA Certificate Services
AddTrust External CA Root	AddTrust External CA Root
	Baltimore CyberTrust Root
	Certum CA
rusted Network CA	Certum Trusted Network CA
ublic Primary Certificat...	Class 3 Public Primary Certificatio...
RSA Certification Au...	COMODO RSA Certification Auth...
t (c) 1997 Microsoft C...	Copyright (c) 1997 Microsoft Corp.
CorporateCA	DatacardCorporateCA
CorporateCA	DatacardCorporateCA
DigiCert Assured ID Root CA	DigiCert Assured ID Root CA
DigiCert Global Root CA	DigiCert Global Root CA
DigiCert Global Root G2	DigiCert Global Root G2
DigiCert Global Root G3	DigiCert Global Root G3
DigiCert High Assurance EV Ro...	DigiCert High Assurance EV Root ...

The certificate is added.

2.2. Edit the registry settings

To edit the registry settings:

1. On the Microsoft 365 computer, enter **regedit** on the Windows **Start** menu to start the Registry Editor.
2. In the left pane, navigate to **Computer** > **HKEY_CURRENT_USER**.
3. Export the **HKEY_CURRENT_USER** registry settings as a backup before you continue. For example:



Computer\HKEY_CURRENT_USER

Name	Type	Data
(Default)	REG_SZ	(value not set)

4. Navigate to the following registry path: `Computer\HKEY_CURRENT_USER\Software\Microsoft\Office\16.0\Common\Signatures`.

   If the registry path does not already exist, you must create it.

5. Add the following variables to the registry path:

Name	Type	Data
MinXAdESLevel	REG_DWORD	2
Timestamp Required	REG_DWORD	1
TSALocation	REG-SZ	http://<TSS_IP_address>/TSS/HttpTspServer
XAdESLevel	REG_DWORD	5

In this table, `<TSS_IP_address>` is the IP address of the TSS appliance. You may use a host name instead of an IP address.

Chapter 3. Procedures

To test and use the time stamping functionality:

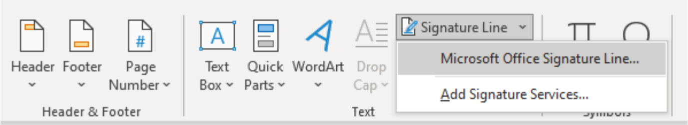
- Add a signature line to a document.
- Sign the signature line in a document.

These procedures are described in the following sections.

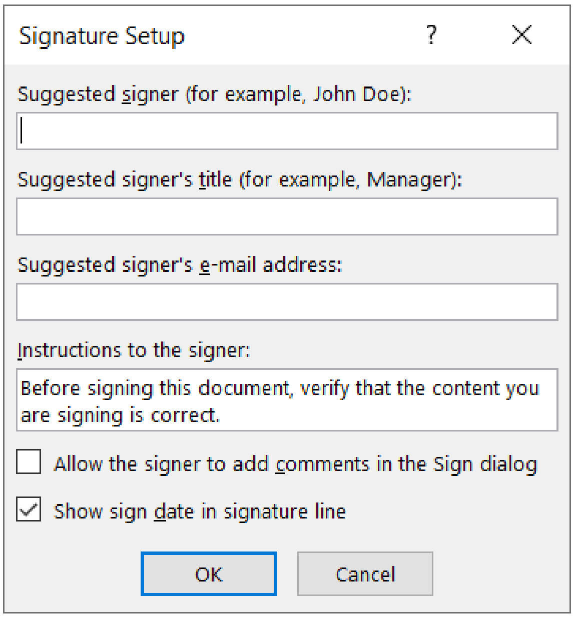
3.1. Add a signature line to a document

To add a signature line to a document:

1. Open the document in Microsoft Word.
2. Click the location in the document where you want to add the signature line.
3. On the ribbon, select the **Insert** tab and locate the **Text** group.
4. Click the arrow next to **Signature Line**, and then select **Microsoft Office Signature Line**. For example:



5. The **Signature Setup** dialog appears. For example:



Signature Setup ? ×

Suggested signer (for example, John Doe):

Suggested signer's title (for example, Manager):

Suggested signer's e-mail address:

Instructions to the signer:

Before signing this document, verify that the content you are signing is correct.

☐ Allow the signer to add comments in the Sign dialog

☑ Show sign date in signature line

OK Cancel

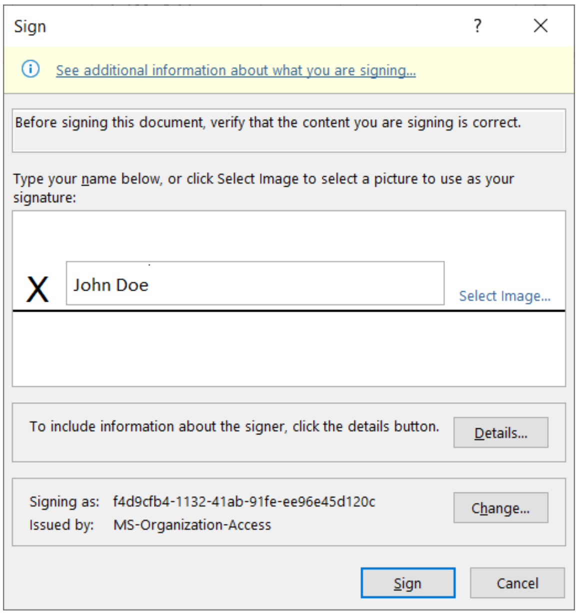
6. Click **OK**.

3.2. Sign the signature line in a document

When you sign the signature line in an Microsoft 365 document, you add both a visible representation of your signature and a digital signature.

To sign the signature line in a document:

1. Open the document in Microsoft Word.
2. In the document, double-click the signature line where your signature is requested.
3. In the **Sign dialog**, add the required information. For example:



Sign

See additional information about what you are signing...

Before signing this document, verify that the content you are signing is correct.

Type your name below, or click Select Image to select a picture to use as your signature:

X John Doe

To include information about the signer, click the details button.

Signing as: f4d9cfb4-1132-41ab-91fe-ee96e45d120c

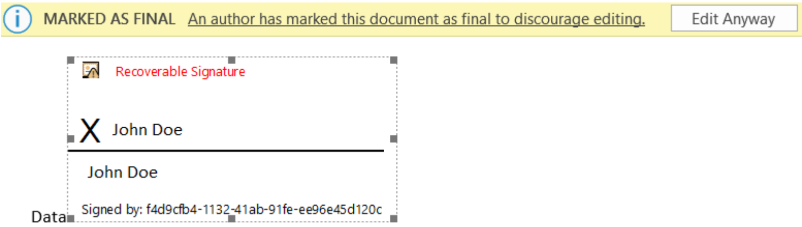
Issued by: MS-Organization-Access

Ensure the signer you choose is in the Trusted Certificates.

4. Click **Sign**.

A message about the certificate selected not being verified may appear. In this case, you can click **OK** to continue.

The document is signed. For example:



MARKED AS FINAL An author has marked this document as final to discourage editing.

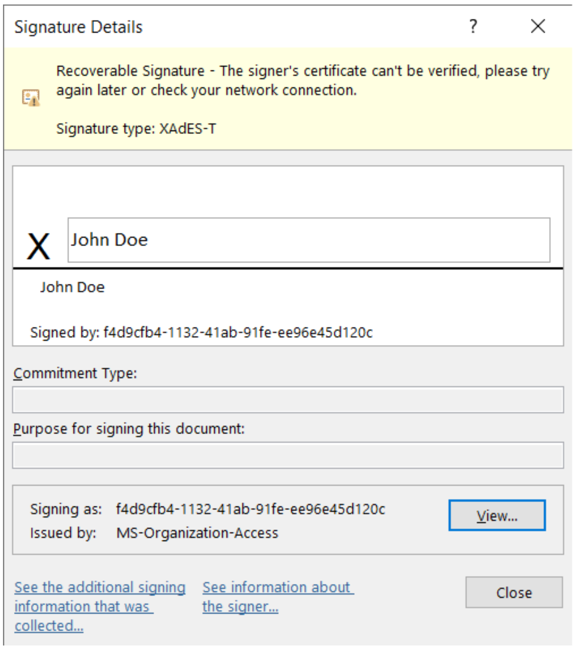
Recoverable Signature

X John Doe

John Doe

Signed by: f4d9cfb4-1132-41ab-91fe-ee96e45d120c

5. Click on the signed section of the document to confirm that the signature is valid. The signature type should be **XAdES-T**. For example:



Signature Details

Recoverable Signature - The signer's certificate can't be verified, please try again later or check your network connection.

Signature type: XAdES-T

X John Doe

John Doe

Signed by: f4d9cfb4-1132-41ab-91fe-ee96e45d120c

Commitment Type:

Purpose for signing this document:

Signing as: f4d9cfb4-1132-41ab-91fe-ee96e45d120c
Issued by: MS-Organization-Access

?
View...
See the additional signing information that was collected...
See information about the signer...
Close

Chapter 4. Troubleshooting

The following table provides troubleshooting guidelines.

Problem	Cause	Resolution
When attempting to sign a document, the Get a Digital ID dialog appears instead of the Sign dialog.	The Microsoft Office registry entries have not been changed correctly.	Follow setup steps again.
When attempting to sign a document, the following error appears: Signing cannot be completed due to problems applying the required timestamp. Check your network connection.	Network issue.	Attempt to re-sign the document.

Chapter 5. Additional resources and related products

5.1. nShield Connect

5.2. nShield as a Service

5.3. Entrust digital security solutions

5.4. nShield product documentation