

Configuration Microsoft Windows Server 2016



Installation manual for system providers

1/29/2020

Product line neo, version 6.x

The described functions can be used with the following ASC products:

EVOIPneo

Please note that you can always find the most up-to-date technical documentation and product updates in the partner area on our website at <http://www.asctechnologies.com>.

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1 General information

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2 Introduction

2 Introduction

This document describes the installation and configuration of Microsoft Windows Server 2016 for the EVOIP^{neo} software.

3 System requirements



The system requirements are described in the installation manual *Installation requirements*.

Update operating system



Updates of the operating system are supported with the exception of complete service packs. The installation of new service packs has to be approved explicitly by ASC.

Deactivate the "Automatic update function" of the operating system and install necessary updates manually if required.



The service Windows Firewall has to be started **before** the installation of the ASC software to guarantee the correct operation of the recording system (see [chapter "Configure services", p. 20](#)). ASC only supports the Windows Firewall.



File Access Auditing/File Access Log must not have been activated.



Exclusively install software approved by ASC!

For information about approved software refer to the current [neo Integration Overview](#) in the ASC Partner Portal.

For information about the system requirements for virtual environments refer to the installation manual *Installation requirements*.

4 Installation Microsoft Windows Server 2016

Make sure that 3 partitions have been created and configured as follows:



For the partitions, the following variants are supported:

- 1 hard disk with 3 partitions
- 3 hard disks with 1 partition

1. System partition

The system partition should have a minimum size of 60 GB.

- 40 GB operating system
- 20 GB *neo* software

2. Database partition

NOTICE! The database partition is required when installing the database on this server.

- The database size depends on the recording volume and the storage time.



For information about how to calculate the size of the database partition refer to the file *Postgres_Database_Sizing* in the Manual CD in folder *1_Sizing calculator*.

3. Data partition

NOTICE! The data partition is required when saving the database on this server.

- The size of the data partition depends on the recording requirements.
- The minimum requirement is 150 GB.

Install the operating system Microsoft Windows Server 2016.

5

Configuration Microsoft Windows Server 2016

The following images refer to the display mode *View by Category* preset by default.

Configure the EVOIP_{neo} software as follows to guarantee smooth operation:

- [chapter "Configure remote desktop", p. 8](#)
- [chapter "Configure Internet Explorer", p. 9](#)
- [chapter "Deactivate Internet Explorer Enhanced Security Configuration \(IE ESC\)", p. 9](#)
- [chapter "Configure energy scheme", p. 10](#)
- [chapter "Network cards", p. 12](#)
- [chapter "Deactivate automatic replay", p. 16](#)
- [chapter "Configure services", p. 20](#)

5.1

Configure remote desktop

1. Press the Windows key.
2. Open the system configuration via *Control Panel > System and Security > System*.
3. Click on the shortcut *Remote settings*.

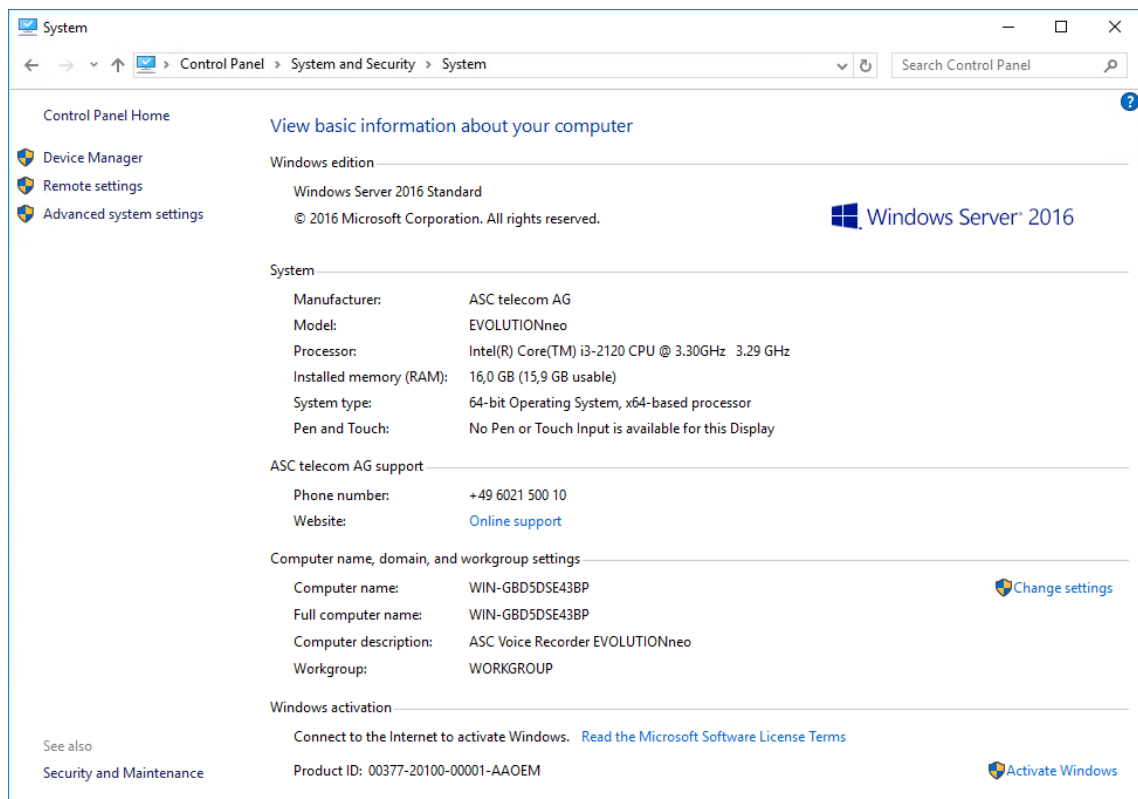


Fig. 1: System

4. Click on the tab *Remote*.
5. Activate the option *Allow remote connections to this computer*.

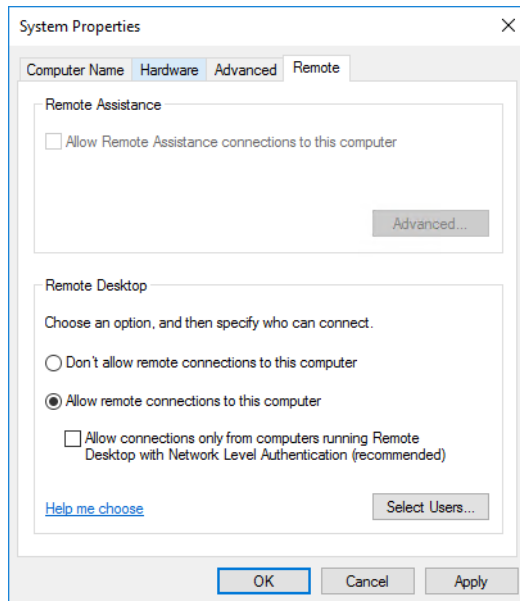


Fig. 2: System Properties

6. Click on the button **OK** to save the settings and to close the window.

5.2 Configure Internet Explorer

Follow the installation manual *Configuration Browser* to install the Internet Explorer.

5.3 Deactivate Internet Explorer Enhanced Security Configuration (IE ESC)

1. Open the *Server Manager* in the taskbar.
2. Select the menu item *Local Server* in the structure view.
3. Under *Internet Explorer Enhanced Security Configuration* select *Off*.

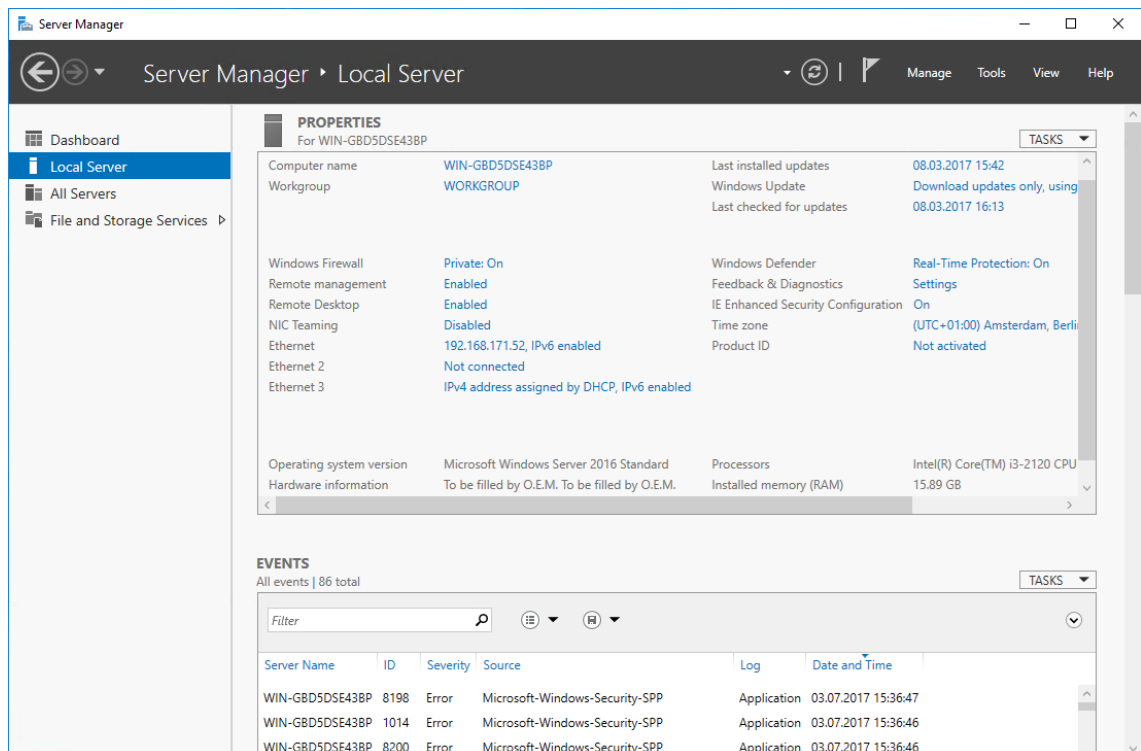


Fig. 3: Server Manager

4. Under *Administrators and Users*, activate the option *Off*.

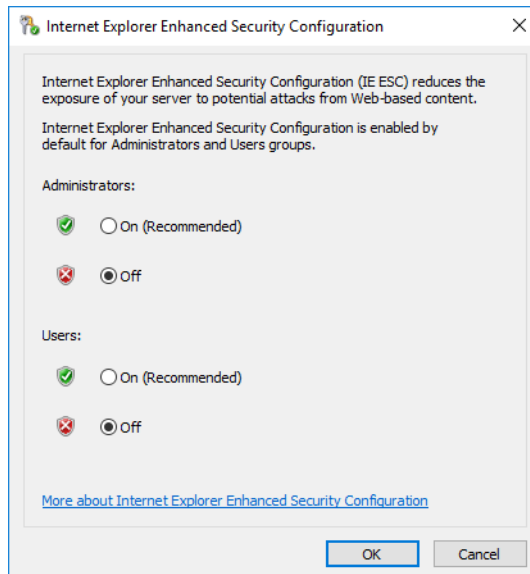


Fig. 4: IE ESC

5. Click on the button *OK* to save the settings and to close the window.

5.4 Configure energy scheme

1. Press the Windows key.
2. Open the hardware options via *Control Panel > Hardware > Power Options*.
3. Activate the option *High performance*.

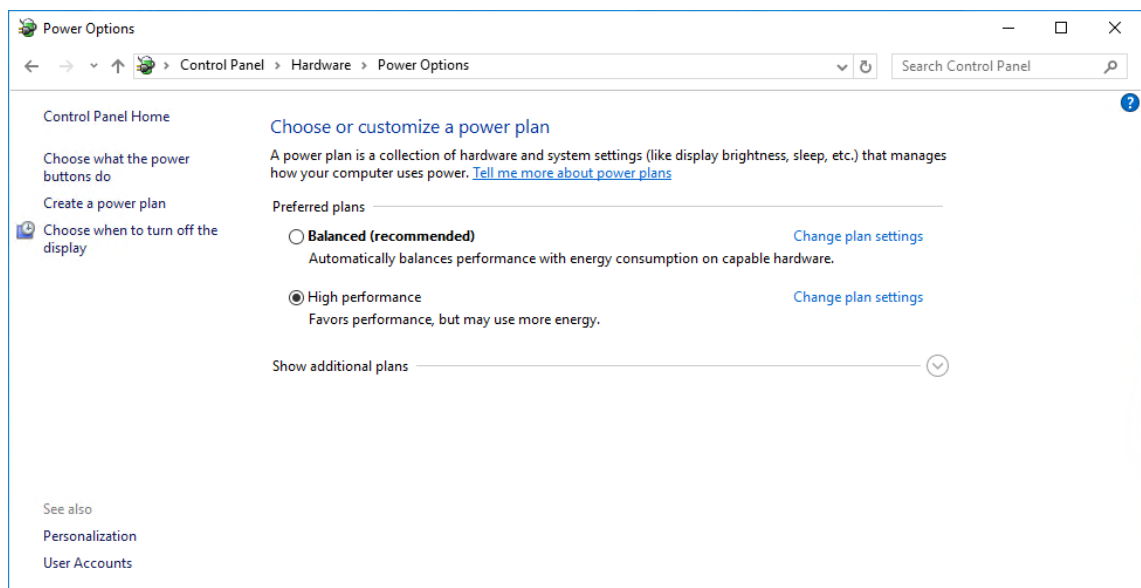


Fig. 5: Power Options

4. Under *High performance*, click on *Change plan settings*.
5. Click on *Change advanced power settings*.

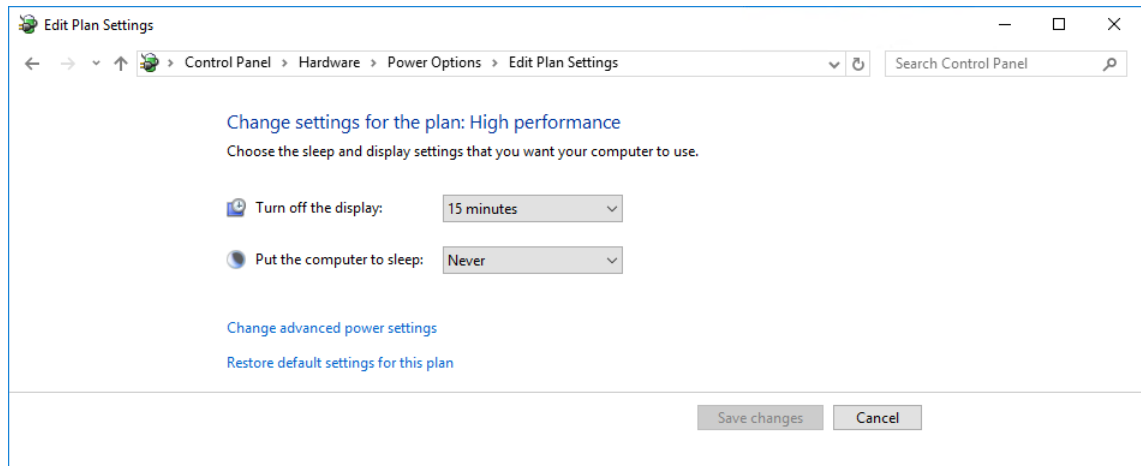


Fig. 6: Edit Plan Settings

6. Under *Hard disk > Turn off hard disk after > Setting (Minutes)*, select the entry *Never*.

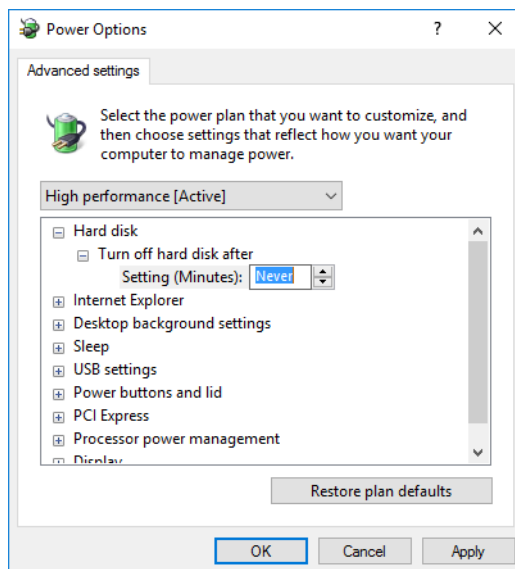


Fig. 7: Power Options

7. Under *Sleep > Sleep after > Setting (Minutes)*, select the entry *Never*.

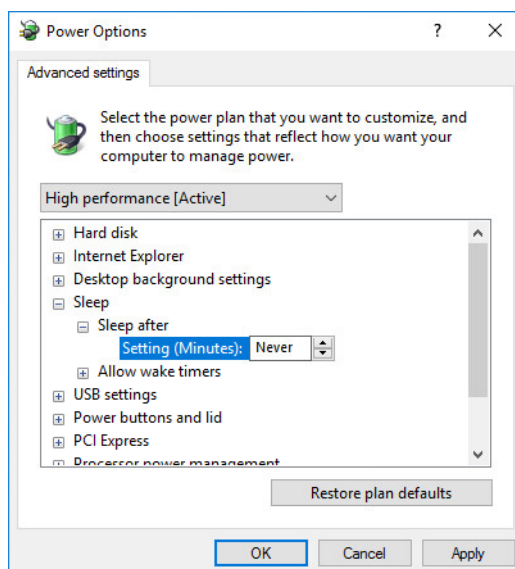


Fig. 8: Power Options

8. Under *Sleep > Allow wake timers > Setting*, select the entry *Disabled*.

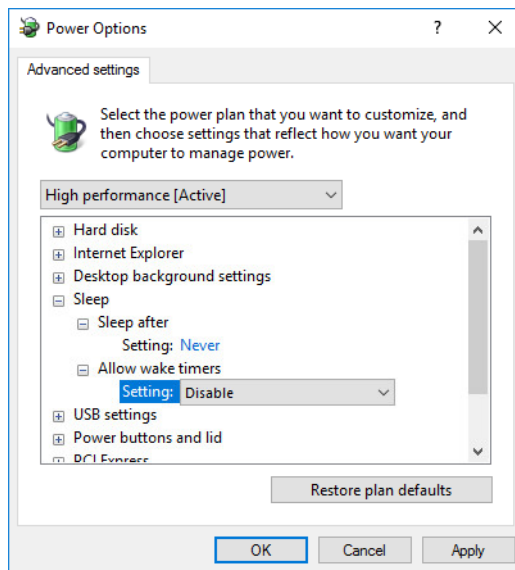


Fig. 9: Power Options

9. Click on the button *OK* to save the settings and to close the window.

5.5 Network cards

Change IP address



The IP address should have been configured before the installation of the ASC software.

Changing the IP address once the recorder application has been installed affects the certificates. For further information refer to the installation manual *Installation of the recording software of ASC*.



If you use a [sniffer card](#), you have to enter an unambiguous IP address and a protocol version for this card, too.

An overview of the supported [VoIP](#) network cards can be found in the installation manual *Installation requirements*.

Check the network speed.



Autonegotiation has been set as default for network cards. As a consequence, the network cards agree on the same speed between switch and recorder.

ASC recommends a transmission speed of 1000 Mbit/s Full Duplex.

5.5.1 Configure network cards

1. Press the Windows key.
2. Open the window *Network and Sharing Center* (network connection) via *Control Panel > Network and Internet > Network and Sharing Center*.
3. Click on *Change adapter settings* on the left side.

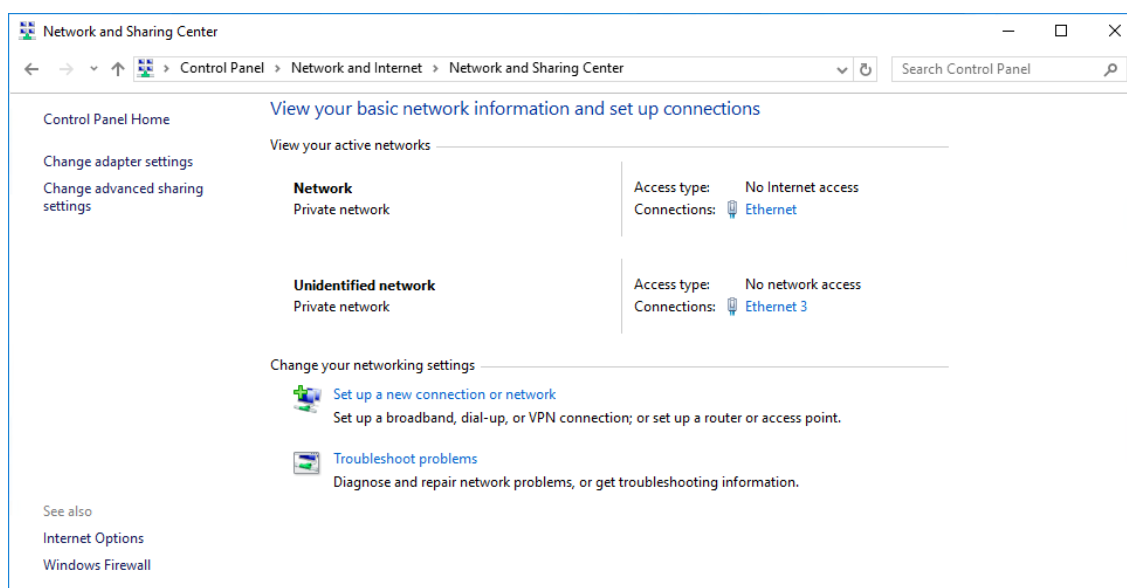


Fig. 10: Network and Sharing Center

4. Click on the inserted card.
5. Open the context menu with a right-click.
6. Select the menu item *Properties*.

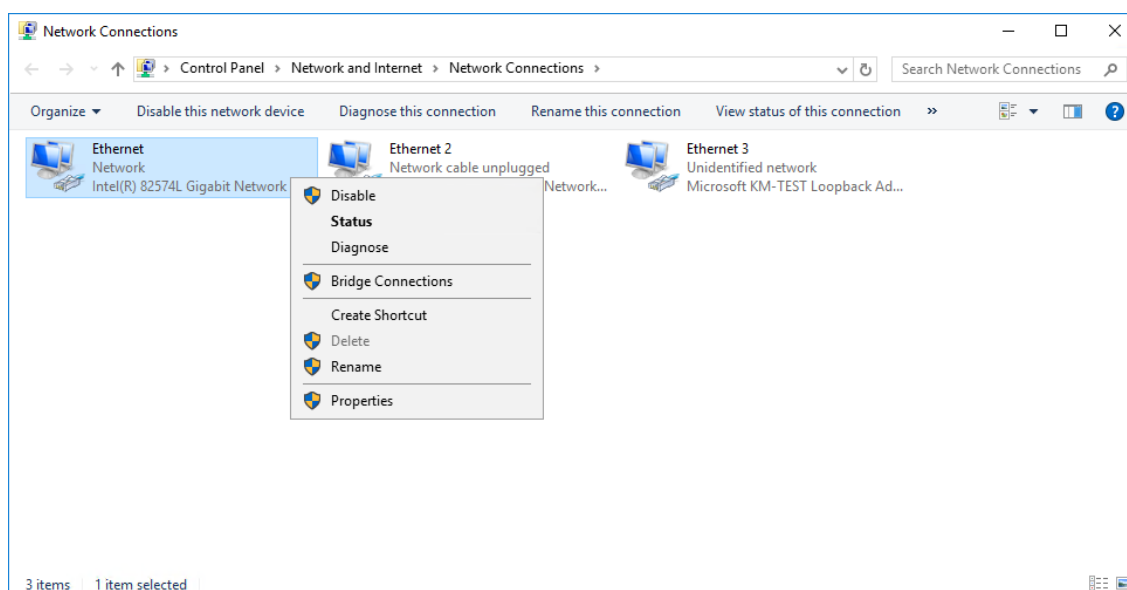


Fig. 11: Network Connections

7. Make sure that the option *File and Printer Sharing for Microsoft Networks* has been activated.
8. Click on *Internet Protocol, Version 4 (TCP/IPv4)*.

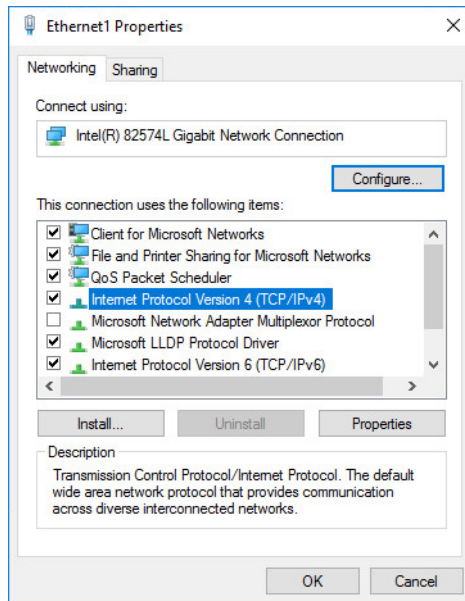


Fig. 12: Network connection properties

9. Click on the button *Properties*.
10. You have to assign a static IP address for the ASC software. Select the option *Use the following IP address*.

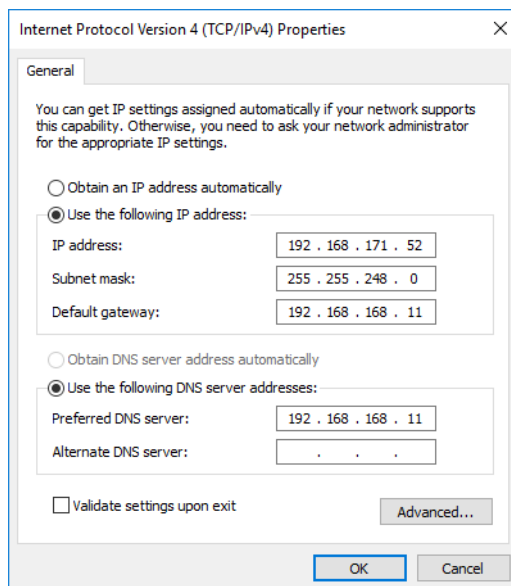


Fig. 13: Internet Protocol Version 4 (TCP/IPv4) Properties (example)

11. Enter the IP address, the subnet mask, and the default gateway.
12. Click on the button *OK* to save the settings and to close the window.
13. Click on the button *Configure*.

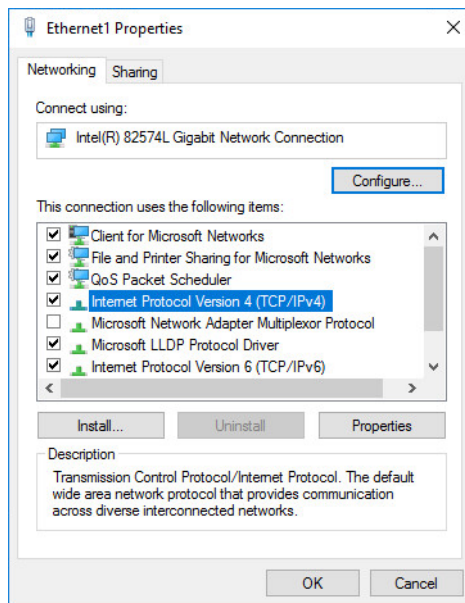


Fig. 14: Network connection properties

14. Click on the tab *Power Management*.

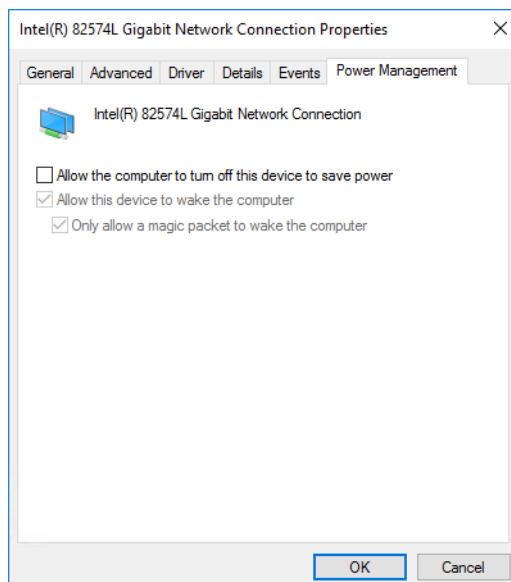


Fig. 15: Network connection energy options

15. Deactivate the check box *Allow the computer to turn off this device to save power*.

16. If you do not want to configure a [sniffer card](#) for the passive recording, click on the button OK. The settings are saved and the window is closed.

If you would like to configure a [sniffer card](#) for the passive recording, proceed as follows:

17. Click on the tab *Advanced*.

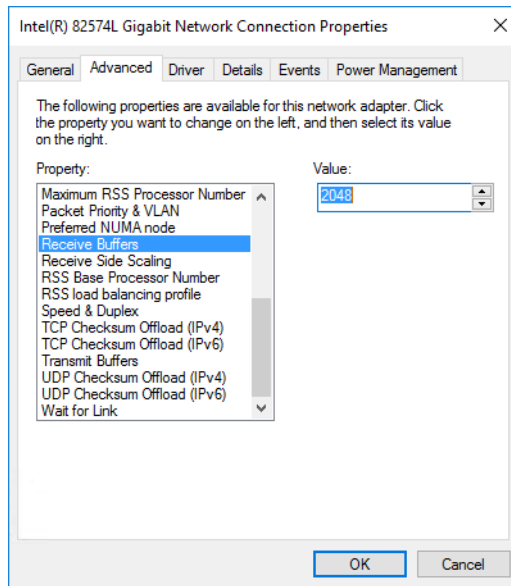


Fig. 16: Network connection advanced properties (example)



Depending on the network card, the following setting dialog may differ.

18. Select the option *Receive Buffers* or *Receive Descriptors* in the list.
19. Enter the maximum value in the field *Value*. Click on one of the arrows to increase or decrease the value.



Depending on the inserted card the maximum value lies between 1024 and 2048.

20. Click on the button *OK* to save the settings and to close the window.

5.6

Deactivate automatic replay

1. Press the Windows key.
2. Open the window *AutoPlay* via *Control Panel > Hardware > AutoPlay*.
3. Deactivate the check box *Use AutoPlay for all media and devices*.

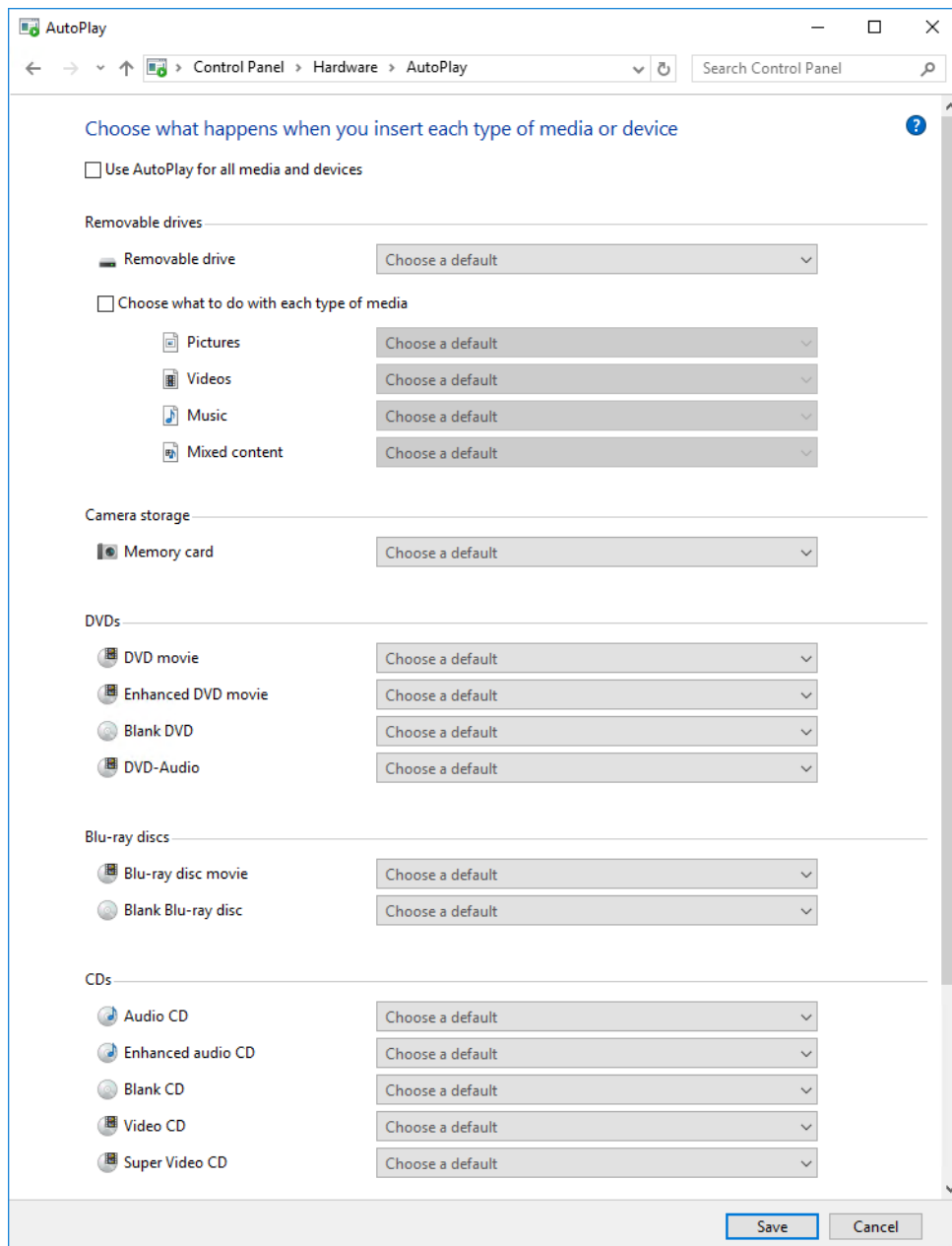


Fig. 17: Deactivate automatic replay

4. Click on the button **Save** to save the settings and close the window.

5.7 Deactivate file indexing

1. Open the *Windows Explorer* in the taskbar.
2. Right-click on *This PC > Database* in the structure view.
⇒ A context menu appears.
3. Click on the menu item *Properties* in the context menu.

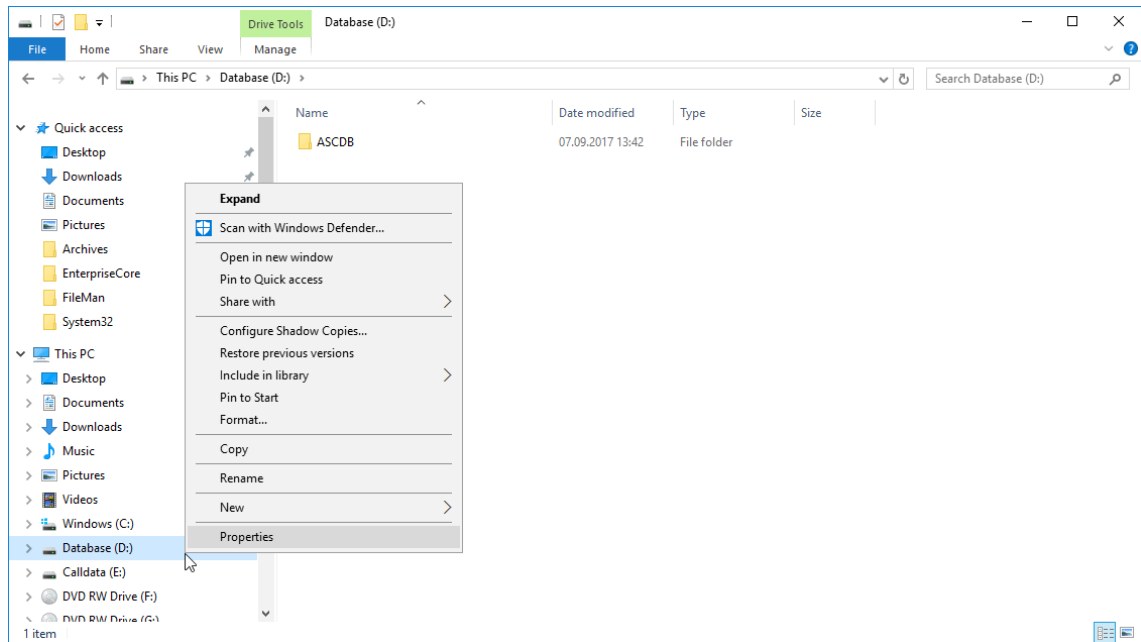


Fig. 18: Open window “Database Properties”

4. Deactivate the check box *Allow files on this drive to have contents indexed in addition to file properties.*

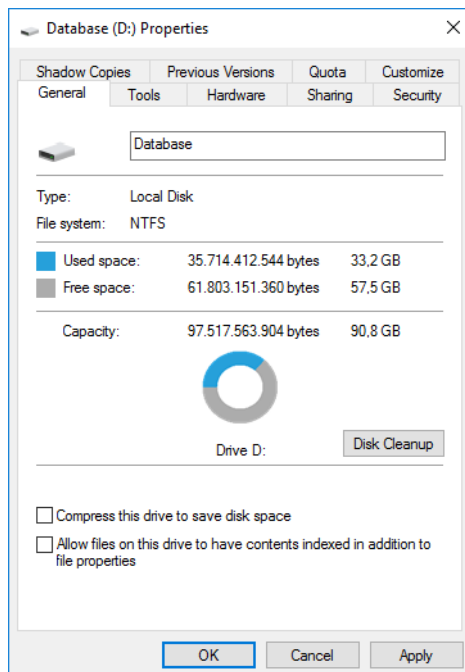


Fig. 19: Database properties

5. Click on the button OK.
⇒ The following window appears:

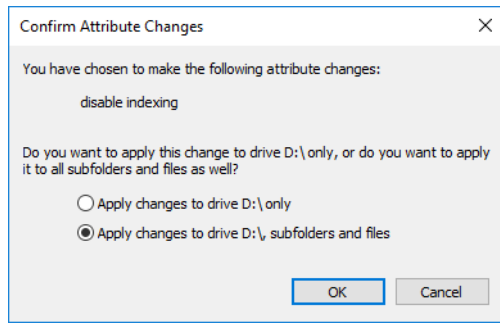


Fig. 20: Confirm modification of attributes

6. Click on the button *OK* to save the settings and to close the window.
7. Right-click on *This PC > Calldata* in the structure view.
 - ⇒ A context menu appears.
8. Click on the menu item *Properties* in the context menu.

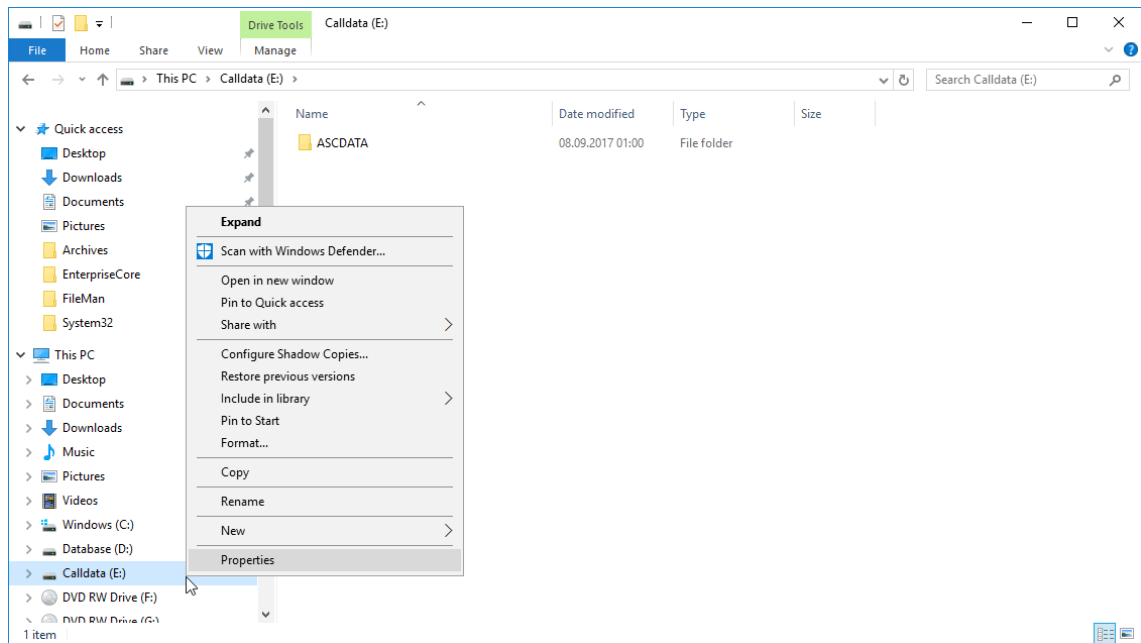


Fig. 21: Open window "Calldata Properties"

9. Deactivate the check box *Allow files on this drive to have contents indexed in addition to file properties*.

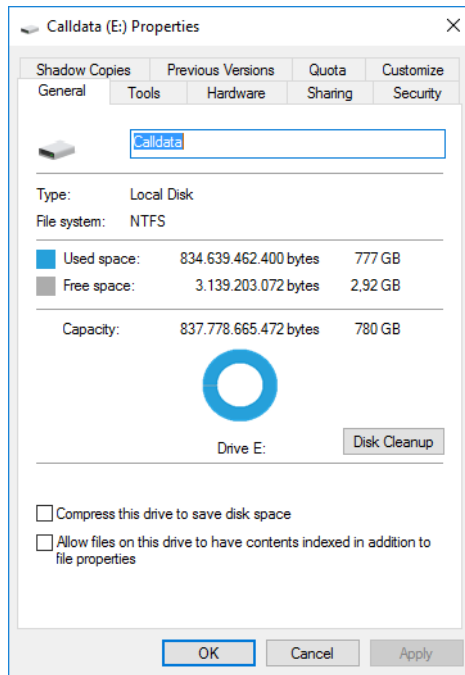


Fig. 22: Calldata properties

10. Click on the button *OK*.

⇒ The following window appears:

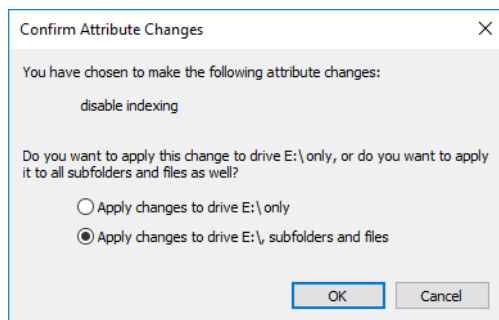


Fig. 23: Confirm modification of attributes

11. Click on the button *OK* to save the settings and to close the window.

5.8

Configure services



For **SNMP**-GET requests, the recording system uses its own **SNMP** service. The **SNMP** service of the operating system is **not** used.

Please deactivate the **SNMP** service of the operating system unless you need it for other applications!

1. Open the *Server Manager* in the taskbar.
2. Click on the menu item *Tools > Services*.

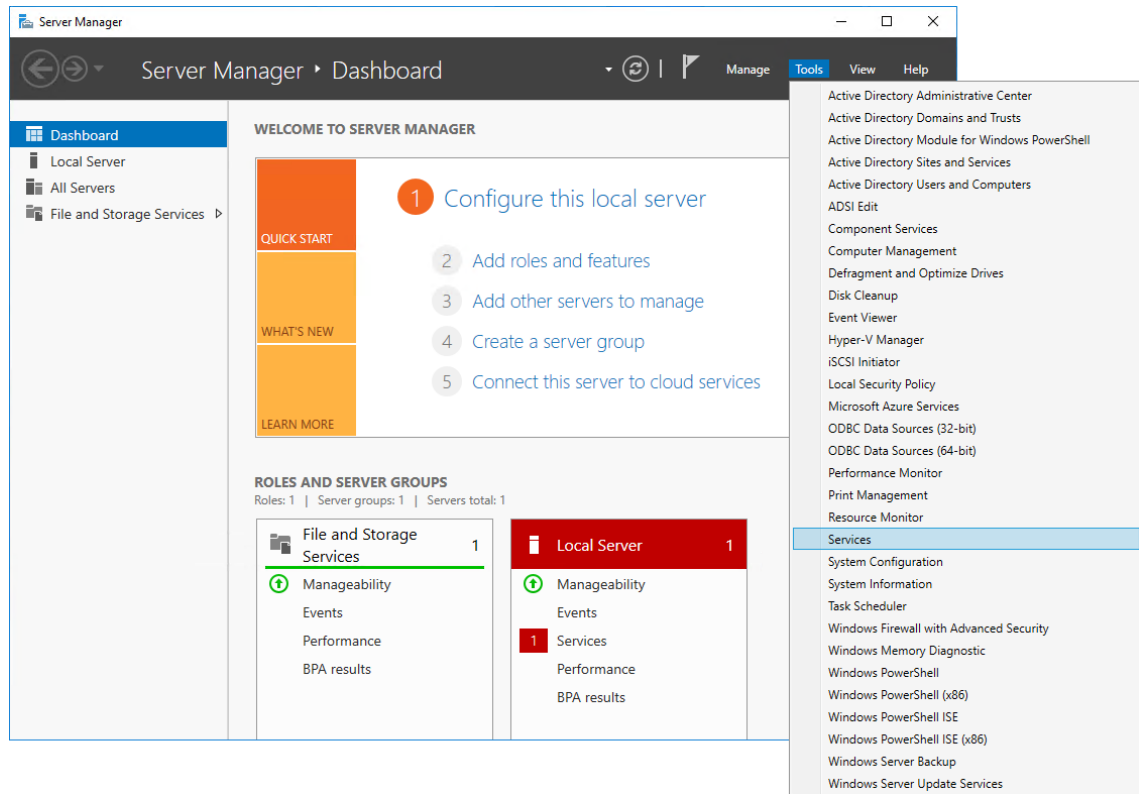


Fig. 24: Select services

During the ASC setup the necessary port releases will be entered automatically if the firewall has been activated. For information about the communication matrix (port configuration) see installation manual *Installation requirements*.

Windows firewall

To start the service *Windows Firewall*, proceed as follows:

1. Right-click on the entry *Windows Firewall*.
 - ⇒ A context menu appears.
2. Click on *Properties* in the context menu.

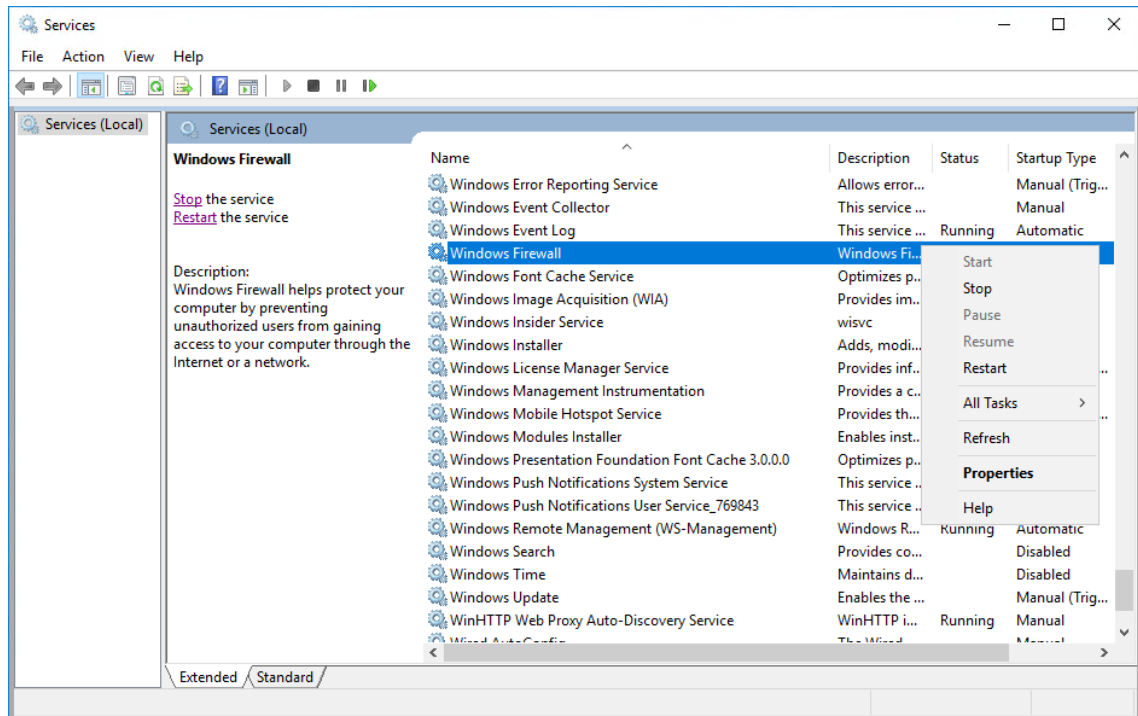


Fig. 25: Open window “Windows Firewall Properties”

3. Click on the tab *General*.
4. Click on the button *Start*.

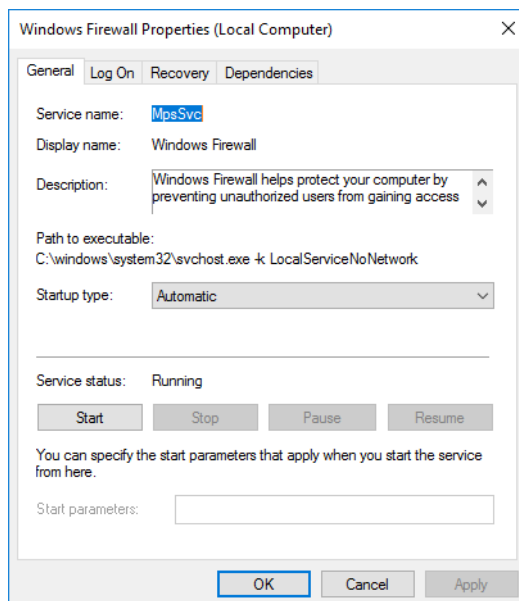


Fig. 26: Windows Firewall Properties

5. In the drop-down list *Startup type*, select the option *Automatic* if the service *Windows Firewall* is supposed to be started automatically upon starting Windows.
6. Click on the button *OK* to save the settings and to close the window.

Windows Audio

To allow a local replay on the server, the Windows Audio Service has to be enabled. Proceed as follows:

1. Right-click on the entry *Windows Audio*.
⇒ A context menu appears.

- Click on *Properties* in the context menu.

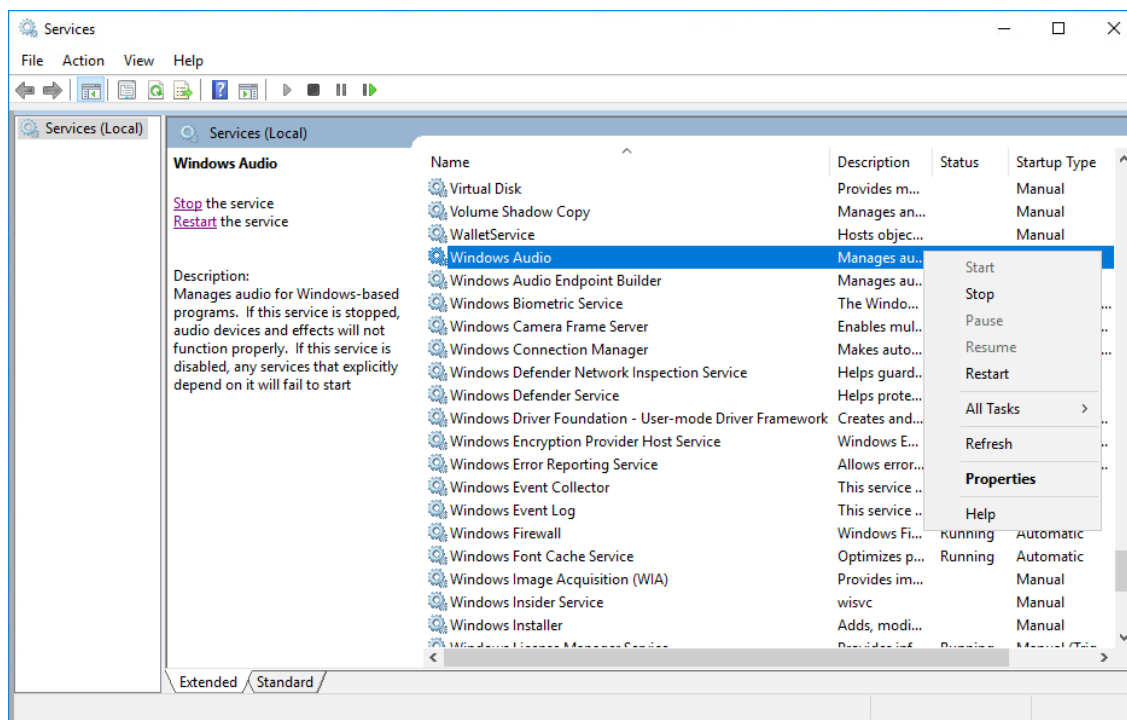


Fig. 27: Open the window "Windows Audio Properties"

- Click on the tab *General*.
- In the drop-down list *Startup type*, select the option *Automatic*.

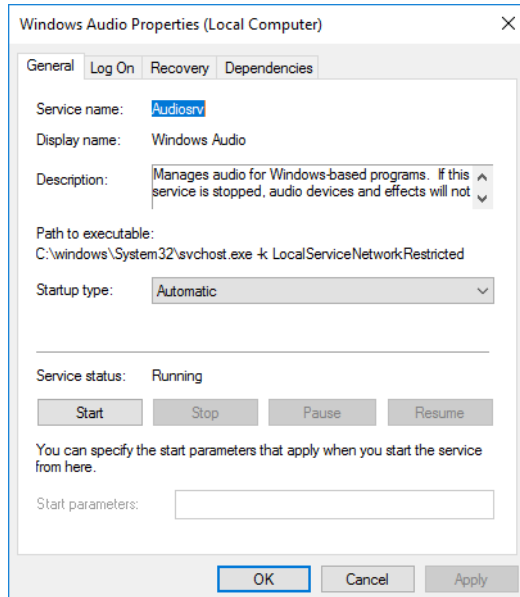


Fig. 28: Windows Audio Properties

- Click on the button *OK* to save the settings and to close the window.

Windows Time

Since ASC uses a time emitter system based on [NTP](#), the Windows time emitter service has to be deactivated. Proceed as follows:

- Right-click on the entry *Windows Time*.
 - ⇒ A context menu appears.
- Click on *Properties* in the context menu.

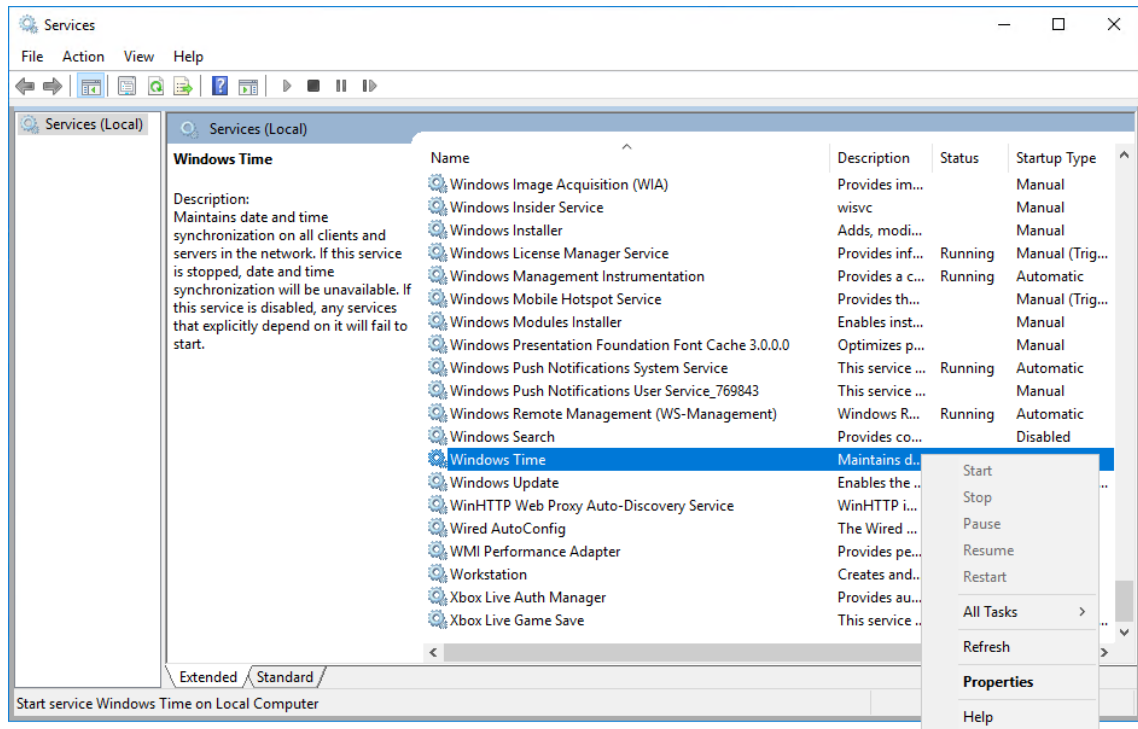


Fig. 29: Open window “Windows Time Properties”

3. Click on the tab *General*.
4. In the window *Windows Time Properties* under *Startup type*, select the option *Disabled*.
5. Check whether the *Service status* has been set to the mode *Stopped*. If this is not the case, stop the service by clicking on the button *Stop*.

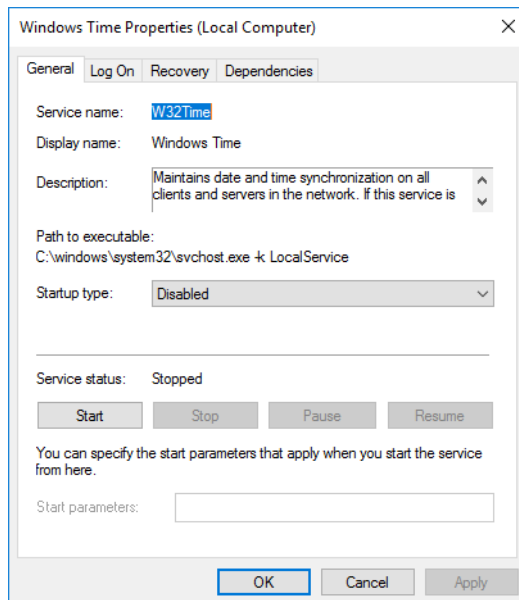


Fig. 30: Windows Time Properties

6. Click on the button *OK* to save the settings and to close the window.

5.9

Install .NET framework

1. Open the *Server Manager* in the taskbar.
⇒ The following window appears:

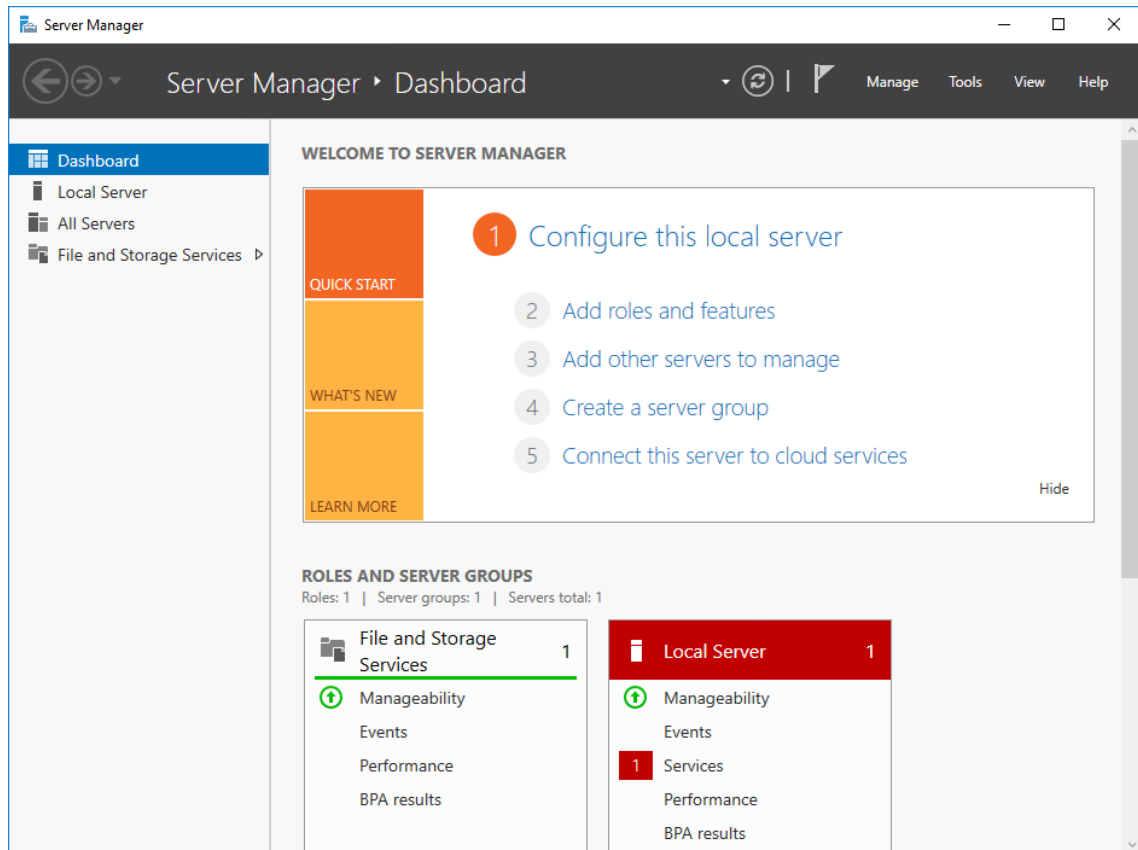


Fig. 31: Server Manager

2. Click on *Add roles and features*.
⇒ The following window appears:

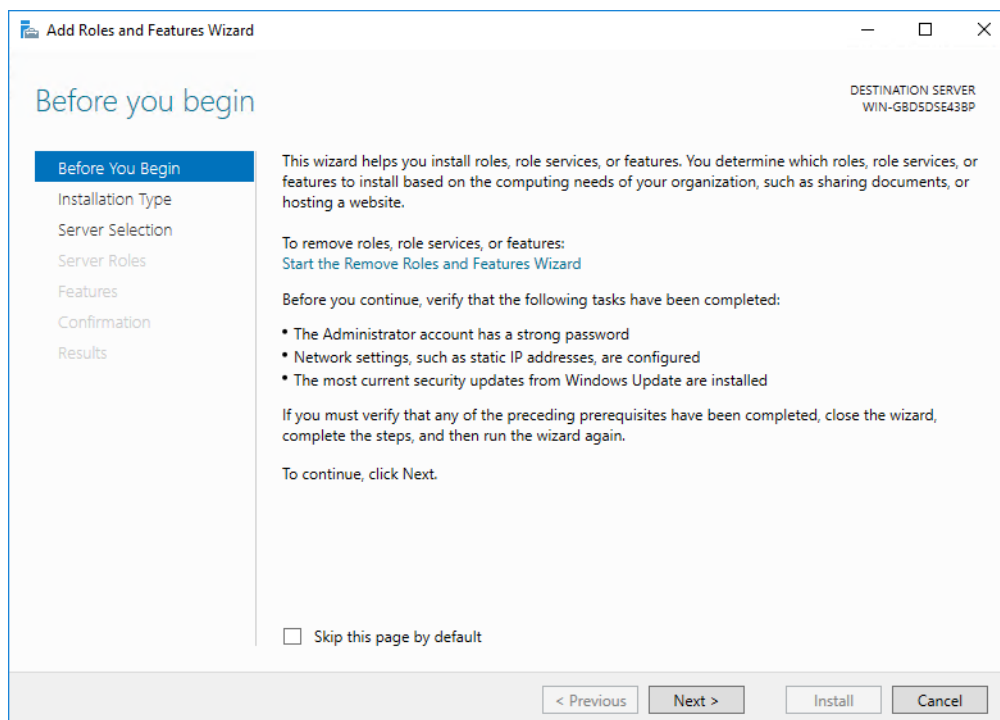


Fig. 32: Add Roles and Features Wizard

3. In the menu item *Installation Type*, click on the button *Next*.
4. In the menu item *Server Selection*, click on the button *Next*.
5. In the menu item *Server Roles*, click on the button *Next*.

6. In the menu item *Features*, click on the button *Next*.
7. Activate the check box *.NET Framework 3.5 Features*.
8. Click on the button *Next*.
 - ⇒ The following window appears:

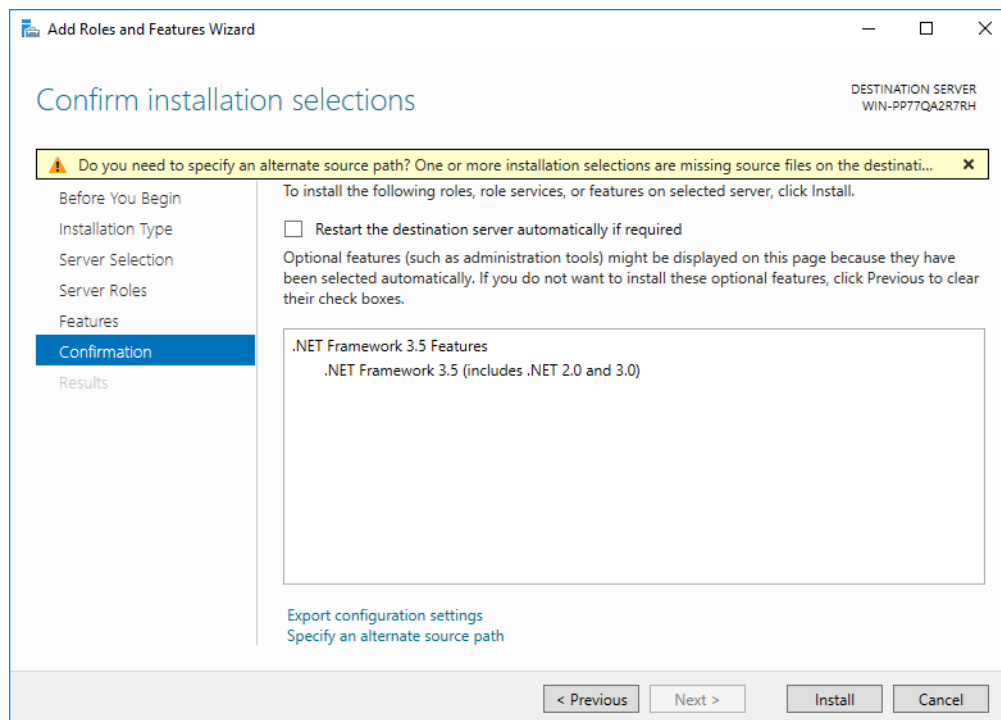


Fig. 33: Add Roles and Features Wizard

9. Open the *Windows Explorer* in the taskbar.
10. Click on the button *This PC*.
11. Right-click on the DVD drive.
 - ⇒ A context menu appears.
12. Click on *Open* in the context menu.

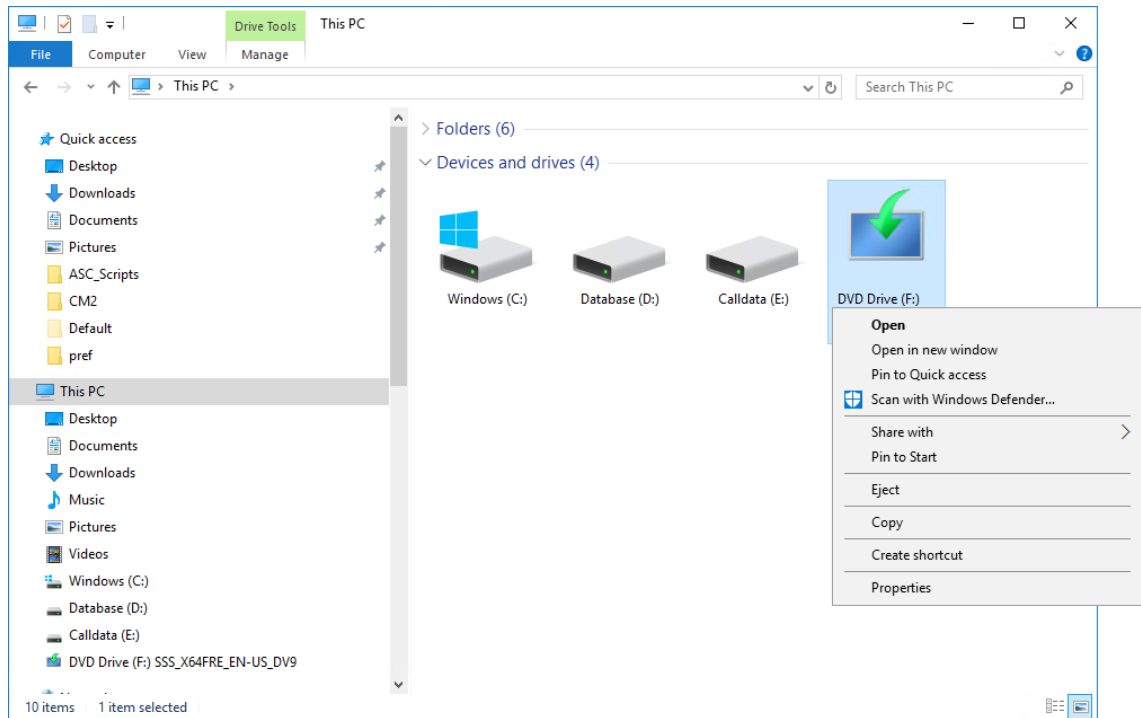


Fig. 34: Computer

13. Double-click on the folder *sources* in the structure view.
14. Click on the folder *sxs* in the structure view.
15. Left-click into the address bar at the top.
 - ⇒ The folder path is selected.
16. Right-click into the address bar at the top.
 - ⇒ A context menu appears.
17. Click on *Copy* in the context menu.

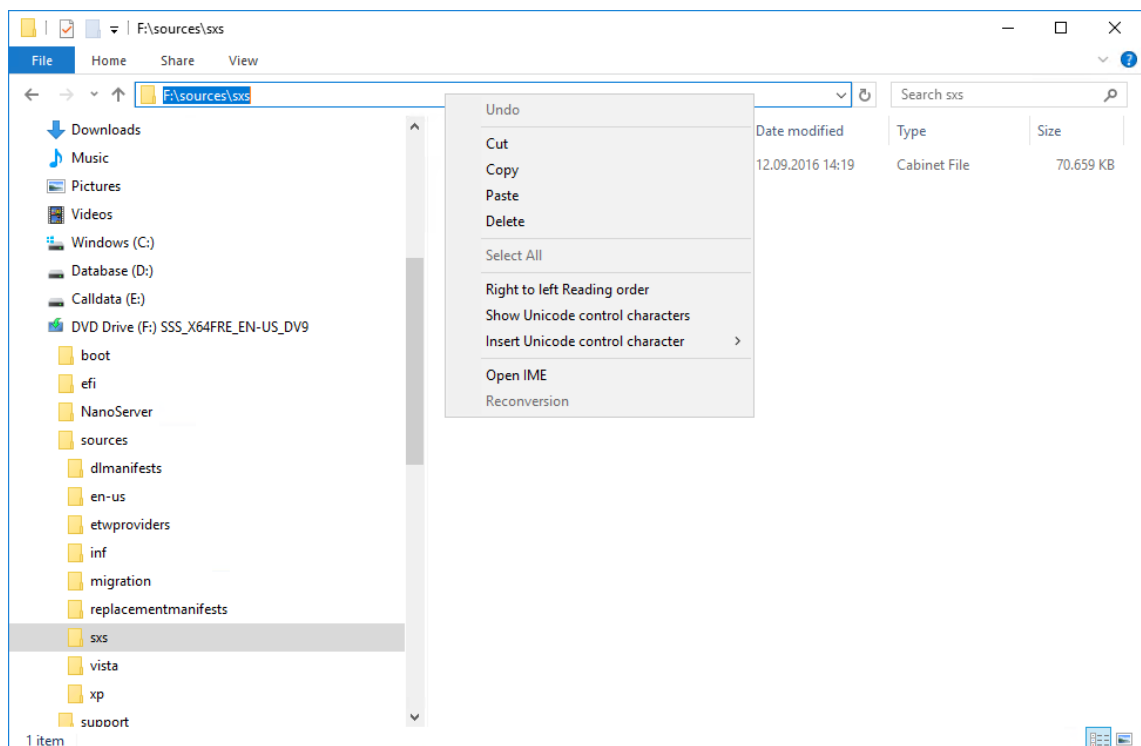


Fig. 35: Copy source path for configuration settings

18. Change to the window *Add Roles and Features Wizard*.
19. Click on *Specify an alternate source path*.

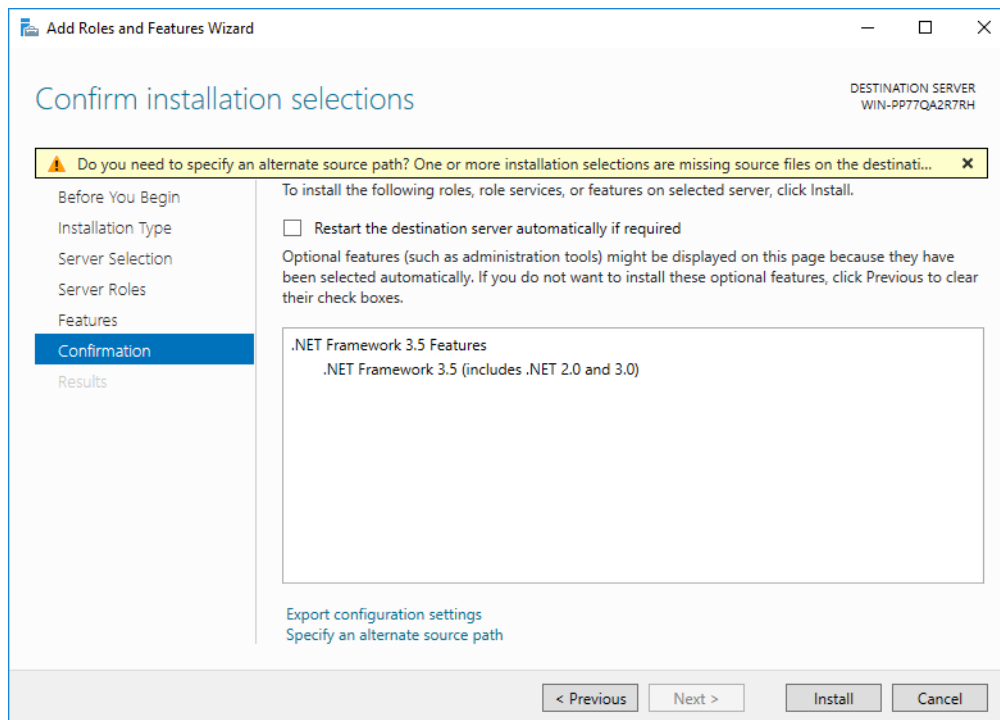


Fig. 36: Add Roles and Features Wizard

20. Right-click in the entry field *Path*.
 - ⇒ A context menu appears.
21. Click on *Paste* in the context menu.
 - ⇒ The path is pasted.

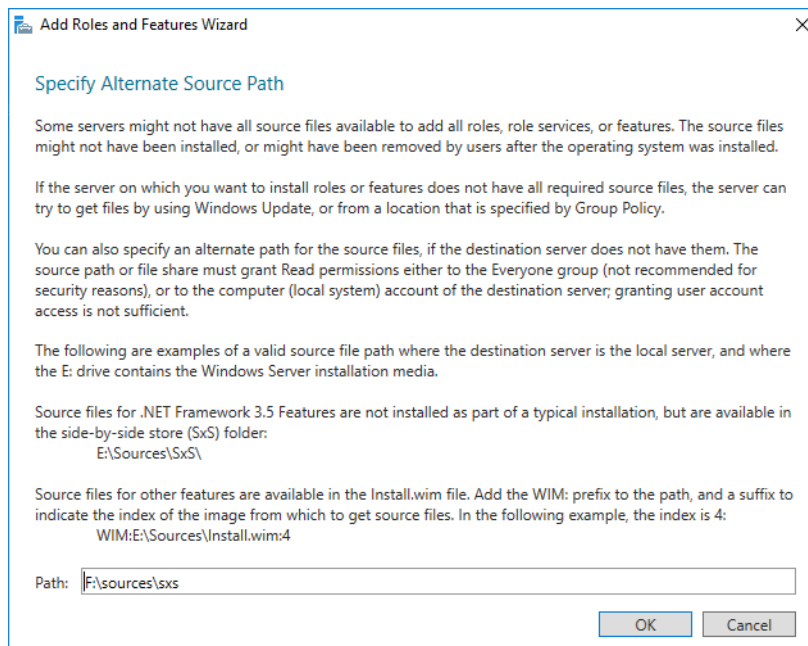


Fig. 37: Copy source path for configuration settings was pasted

22. Click on the button *OK* to save the settings and to close the window.
23. Click on the button *Install* to install the service.
24. Click on the button *Close* to close the window.

5.10 Install Media Foundation

1. Press the Windows key.
2. Open the Windows options via *Control Panel > Programs and Features*.
3. Activate the option *Turn Windows features on or off*.

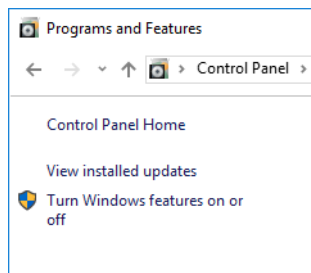


Fig. 38: Windows options

4. The following window appears:

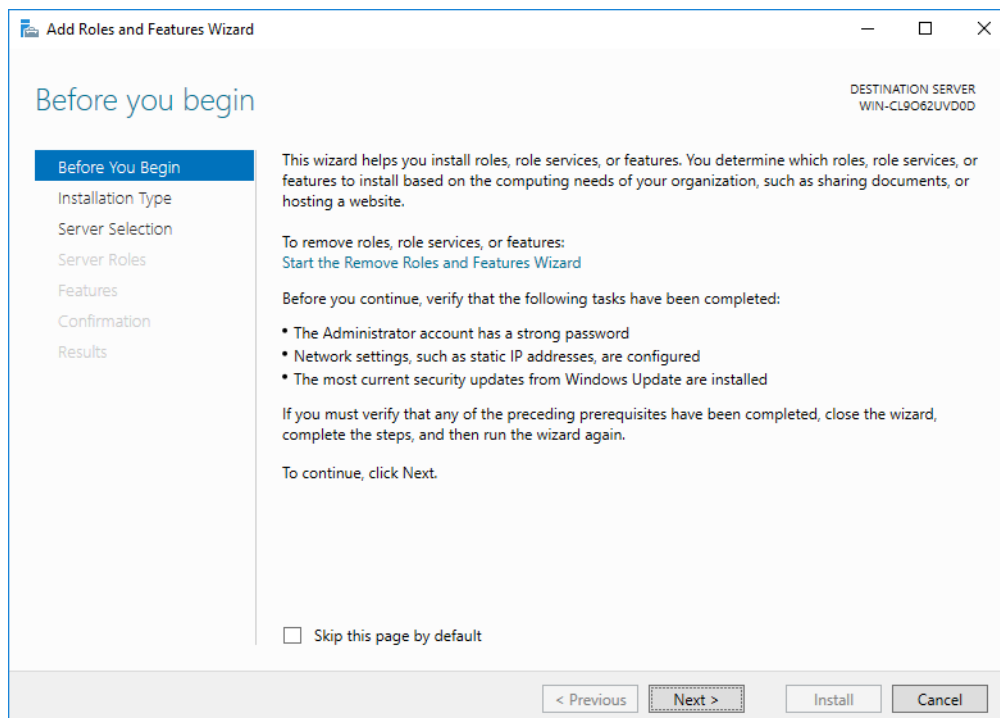


Fig. 39: Add Roles and Features Wizard

5. Click on the button *Next*.
6. Under *Installation Type*, activate the option *Role-based or feature-based installation*.

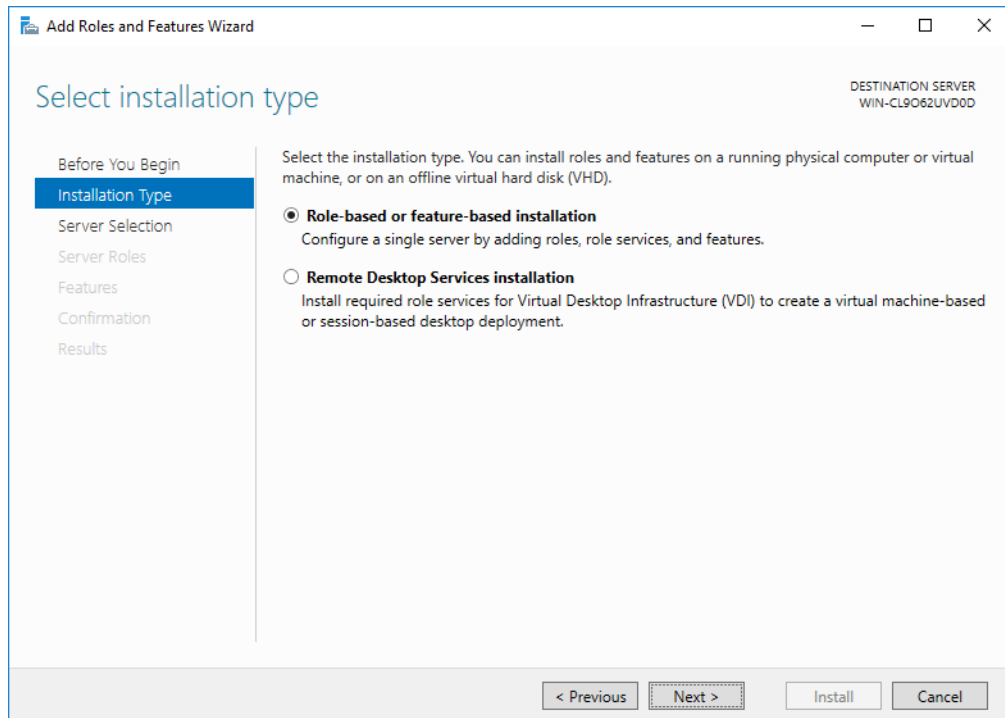


Fig. 40: Installation type

7. Click on the button *Next*.

⇒ The following window appears:

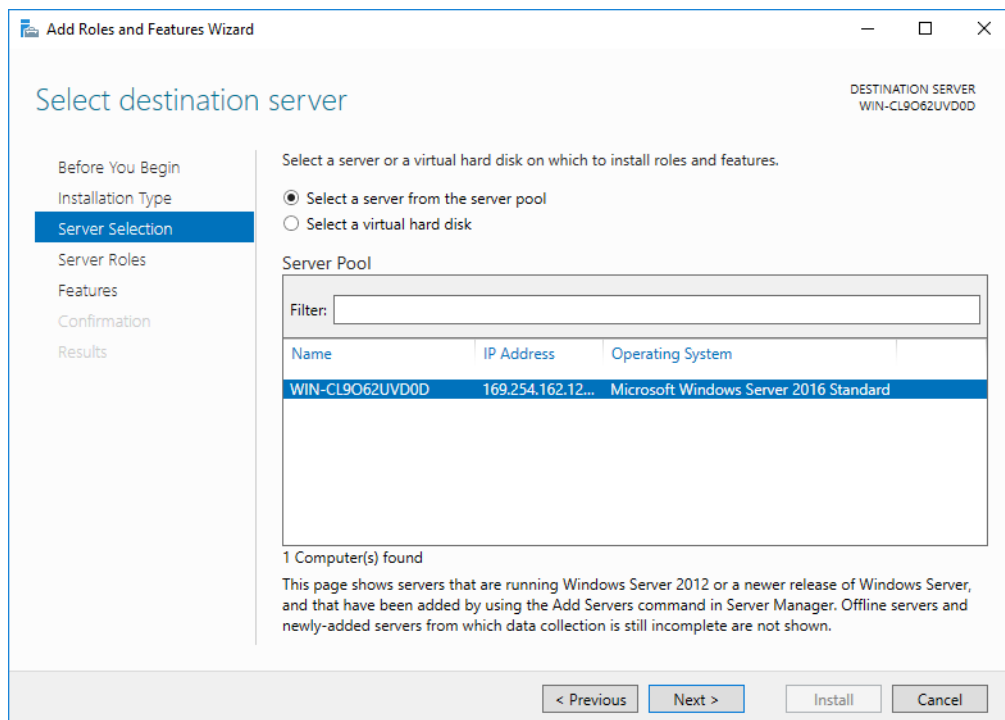


Fig. 41: Server selection

8. Under *Server Selection*, activate the option *Select a server from the server pool*.

9. Select your server from the pool of servers.

10. Click on the button *Next*.

⇒ The following window appears:

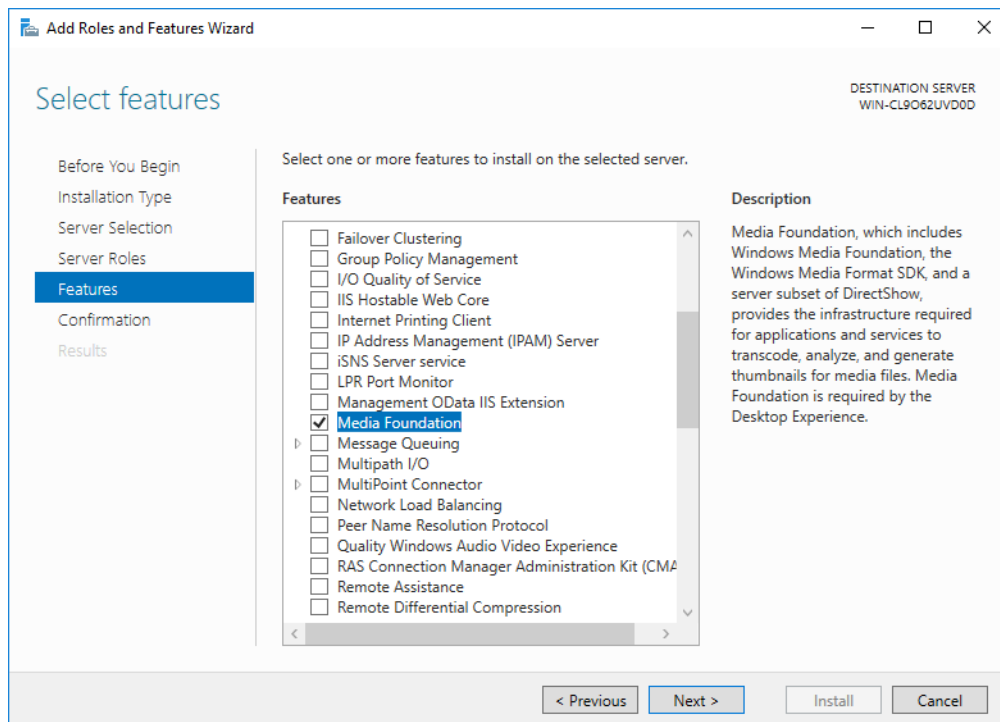


Fig. 42: Features

11. Under *Features*, activate the option *Media Foundation*.
12. Click on the button *Install* to install the service.
13. Reboot the computer once you have finished the installation to apply the settings.

5.11 Enable script hosts

To check whether script hosts have been enabled and to configure scrip hosts if required, proceed as follows:

1. Press the Windows key.
2. Enter *regedit.exe*.
3. In the list of search results above, right-click on *regedit.exe*.
⇒ A context menu appears.
4. Click on *Run as administrator* in the context menu.
5. Change to the path *HKEY_LOCAL_MACHINE > Software > Microsoft > Windows Script Host > Settings*.
6. If the entry *Enabled* is not displayed in the main view, you do not have to continue the configuration of the script hosts.
If the entry *Enabled* is displayed in the main view, proceed as follows:
7. Double-click on the entry *Enabled*.
8. In the entry field *Value Data*, enter the value *1*.

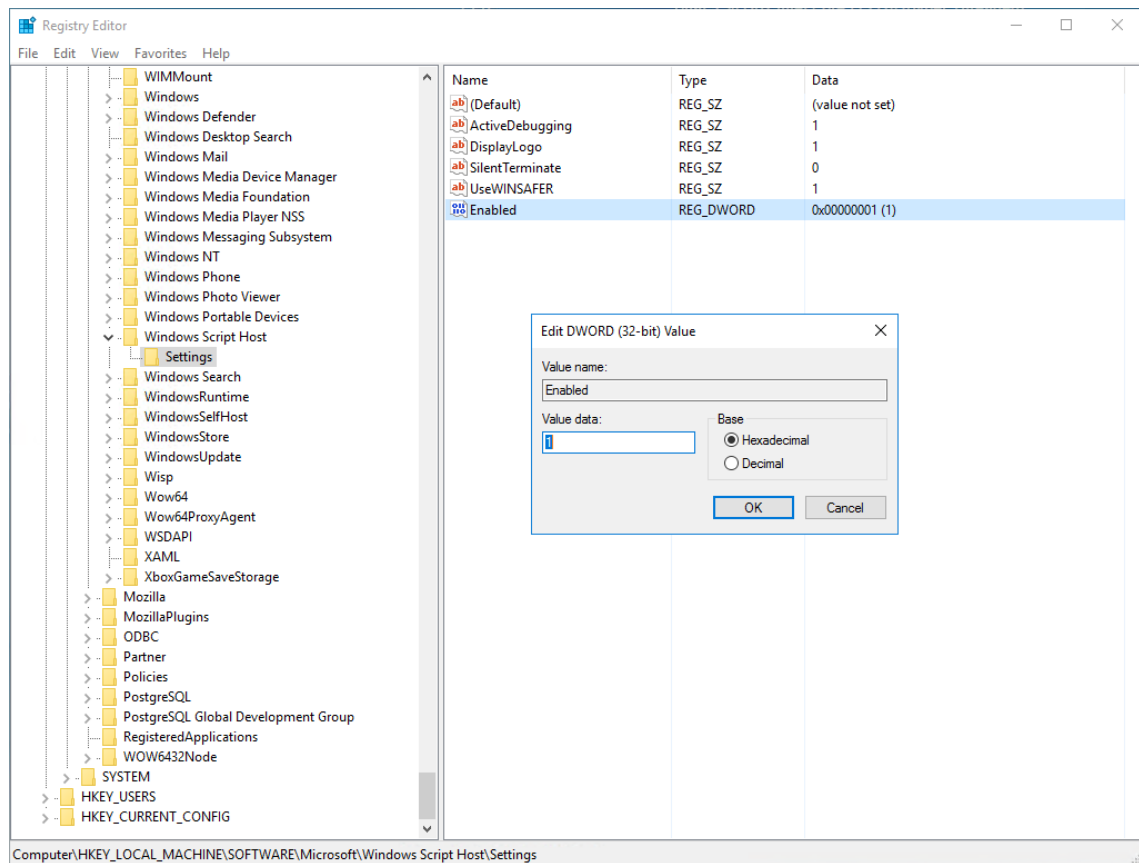


Fig. 43: Enable script hosts

- Click on the button **OK** to save the entries and close the window.

5.12 Configure maximum password age

- Press the Windows key.
- Enter *gpedit.msc*.
- In the list of search results above, right-click on *gpedit.msc*.
 - ⇒ A context menu appears.
- Click on *Run as administrator* in the context menu.
 - ⇒ The window *Local Group Policy Editor* opens.
- Change to the path *Computer Configuration > Windows Settings > Security Settings > Account Policies > Password Policy*.

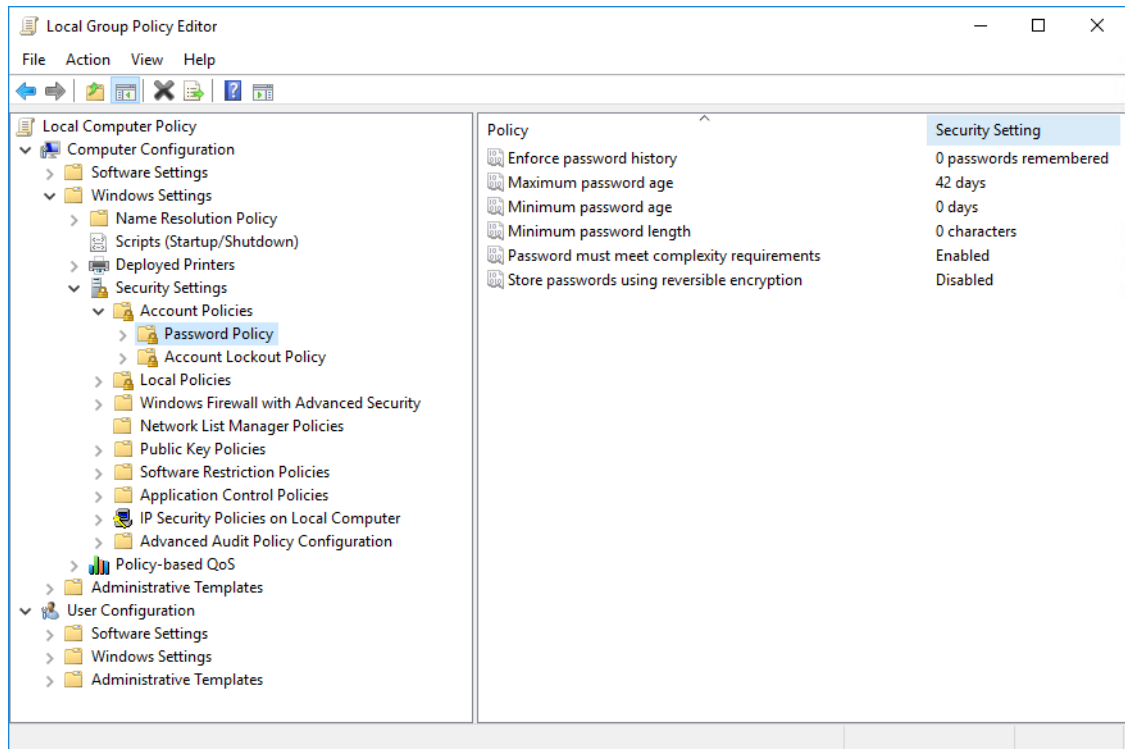


Fig. 44: Local Group Policy Editor

6. In the main view, right-click on *Maximum password age*.
⇒ A context menu appears.
7. Click on *Properties* in the context menu.
8. Under *Password will expire in* enter the value *0*.
⇒ The description now says *Password will not expire*.

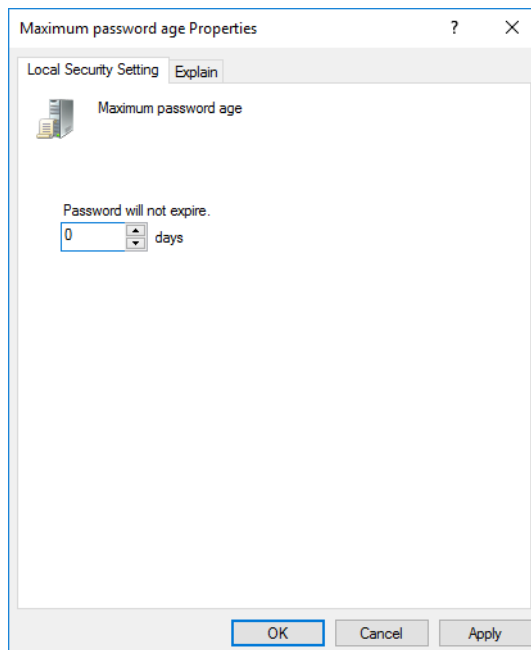


Fig. 45: Maximum password age Properties

9. Click on the button *OK* to save the entries and close the window.

6 Quick guide

6.1 General requirements

- 3 partitions:
At least 60 GB for the system partition
At least 40 GB for the database partition
At least 150 GB for the data partition

6.2 Observe the following steps after the installation of Windows Server 2016

- Configure remote desktop:
Windows key > Control Panel > System and Security > System > Remote Settings > Remote: activate Allow remote connections to this computer > **OK.**
- Deactivate IE Enhanced Security Configuration (IE ESC):
Server Manager > Local Server > IE Enhanced Security Configuration: Off > Administrators, Users: select Off respectively > **OK.**
- Configure energy scheme:
Windows key > Control Panel > Hardware > Power Options > Choose or customize a power plan: activate High performance > **Change plan settings > Change advanced power settings > Hard disk > Turn off hard disk after > Setting (Minutes): Never > Sleep > Sleep after > Setting (Minutes): Never > Sleep > Allow wake timers > Setting: Disable > OK.**
- Configure network card:
Windows key > Control Panel > Network and Internet > Network and Sharing Center > Change adapter settings > NIC > Internet Protocol, Version 4 (TCP/IPv4) Properties: Use the following IP address enter IP address, subnet mask, default gateway > **OK > Configure > Power Management:** deactivate Allow the computer to turn off this device to save power
if no **sniffer card** > **OK.**
Configure **sniffer card** for passive recording:
> **Advanced > Receive Buffers or Receive Descriptors > Value:** enter maximum value: 1024-2048 (depending on the network card) > **OK.**
- Deactivate automatic replay:
Windows key > Control Panel > Hardware > AutoPlay deactivate Use AutoPlay for all media and devices > **Save.**
- Deactivate file indexing:
Windows Explorer > right-click This PC > Database > Properties > to deactivate Allow files on this drive to have contents indexed in addition to file properties > OK > OK > right-click This PC > Calldata > Properties > to deactivate Allow files on this drive to have contents indexed in addition to file properties > OK > OK.
- Configure services:
Server Manager > Tools > Services > Windows Firewall > Properties > General > Start > Startup type: Automatic > OK > Windows Audio > Properties > General > Startup type: Automatic > OK > Windows Time > Properties > General > Startup type: Disabled > Stop > OK.
- . Install .NET framework:

Server Manager > Add roles and features > Next > Next > Next > Next > activate .NET framework 3.5 Features > Next > Windows Explorer > This PC > right-click to copy folder path DVD > Open > \sources\sxs: and change to the following window Add Roles and Features Wizard > Specify an alternate source path > Path: paste copied folder path > OK > Install.

- Install Media Foundation:

Activate **Windows key > Control Panel > Programs and Features > Turn Windows features on or off > Next > Roles-based or feature-based installation activate > Next > Select a server from the server pool and select your server > Next > activate Media Foundation > Install** and reboot computer.

- Enable script hosts:

Windows key > enter regedit.exe > right-click on search result regedit.exe > Run as administrator > select path HKEY_LOCAL_MACHINE > Software > Microsoft > Windows Script Host > Settings

If the entry **Enabled** is not displayed in the main view, you do not have to continue the configuration of the script hosts.

If the entry **Enabled** is displayed in the main view, proceed as follows: double-click **Enabled > Value Data** enter 1 > OK.

- Configure maximum password age:

Windows key > enter gpedit.msc > right-click on the search result gpedit.msc > Run as administrator > select path Computer Configuration > Windows Settings > Security Settings > Account Policies > Password Policy > right-click on Maximum password age > Properties > Password will expire in: enter value 0 > OK.

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Glossary

NTP

Network Time Protocol NTP is a standard for the synchronization of clocks in computer systems via packet-based communication networks. NTP uses the connectionless transport protocol UDP. It has been developed with the objective to guarantee reliable time verification across networks with variable packet runtime. (Source: Wikipedia 12th June 2018)

Sniffer card

A sniffer card is a network card approved by ASC for passive VoIP recording.

SNMP

Simple Network Management Protocol is a network protocol and serves to monitor and manage network components. The protocol does not depend on the IP network protocol for the transport. It sends notifications (traps) about the activities on the network components on its own accord.

VoIP

Voice over IP