

A man in a light blue shirt is seen from the side, holding a tablet. He is in a factory environment with industrial machinery and a clock in the background. Overlaid on the scene are futuristic digital elements: a '24/7' circular icon, a 'NEWS' section with a profile picture, a 'Home' button, and a network diagram with three nodes. The text 'Industry Online Support' is also visible.

SIEMENS

Ingenuity for life

Exemplary Connection of MTConnect controller with MindSphere

Analyze MyPerformance /OEE-Tuning 01.03.00.00
Analyze MyPerformance /OEE-Monitor 01.03.00.00
Manage MyMachines 02.01.02.00



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1 Introduction

1.1 Overview

1.2 Mode of operation

1.3 Components used

This application example has been created with the following hardware and software components:

Operating system Windows 10 with up-to date Windows patches

SINUMERIK Integrate Client 4.12.0.21 or 4.13.0.36

3rdPartyController 1.0.2.2

NET Framework as of 4.x

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Note: for older operating systems an older version of 3rdPartyController needs to be used, also additionally MicrosoftEasyFix51044 must be installed so that TLS 1.2 functions are available on old systems

2 Engineering

2.1 Configuration/Setting Parameters

2.1.1 3rdPartyController commissioning

Overview

In order to use Manage MyMachines with 3rdPartyController control systems, you must carry out the following installations and configurations:

1. Installing SINUMERIK Integrate Client, see Chapter: Installing the SINUMERIK Integrate client
2. Installing 3rdPartyController, see Chapter: Installing 3rdpartyController
3. Integrating 3rdpartyController in SINUMERIK Integrate, see Chapter: Integrating the 3rdpartyController into the SINUMERIK Integrate client
4. Configuring 3rdpartyController and MindSphere, see Chapter: Configuring 3rdpartyController and MindSphere

If you no longer wish to use the "3rdpartyController", you can uninstall the software. See Chapter: 6. Uninstalling 3rdpartyController

2.1.2 Installing the SINUMERIK Integrate client

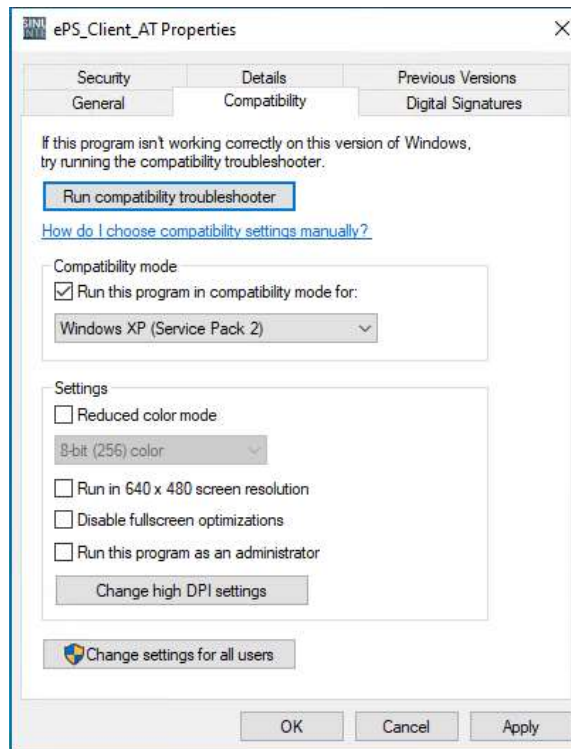
Procedure

1. Start the SINUMERIK control system in Windows service mode.
2. Open the installation directory.
3. Start the "setup.exe" setup file by double-clicking.

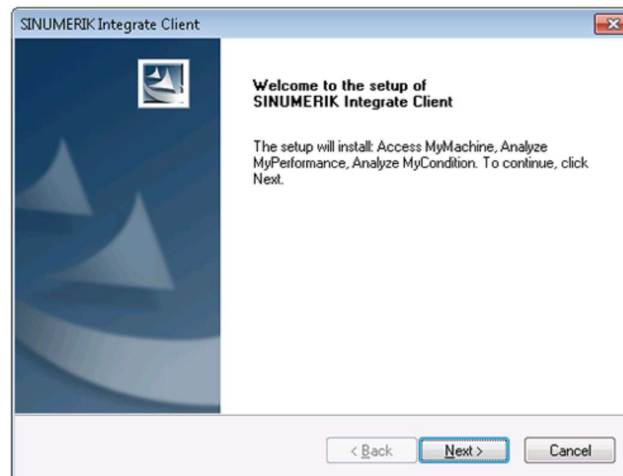
If you have not installed the appropriate Internet Explorer, a message will appear indicating this, e.g. "The program requires Internet Explorer 6 or higher". Installation is canceled and you must install the appropriate Internet Explorer first. Then restart the client installation.

Installation on Windows 10:

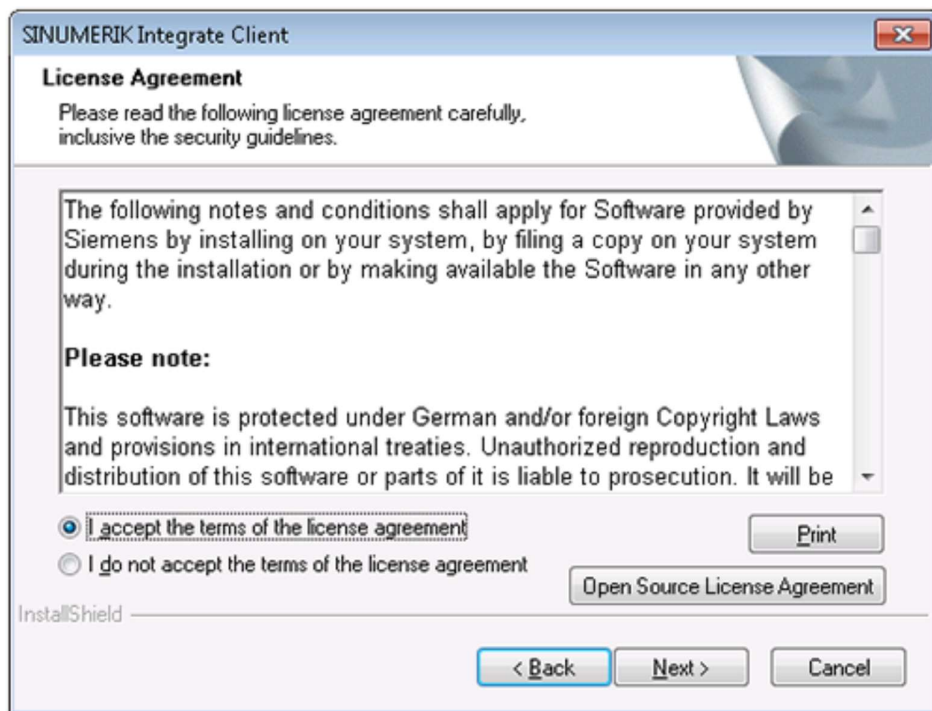
If you want to install SINUMERIK Integrate Client, you need to run installation in Compatibility Mode. To do that, right click on installer file and choose "Properties". Mark checkbox "Run this program in compatibility mode" and choose "Windows XP" option. Click "OK" and run setup file.



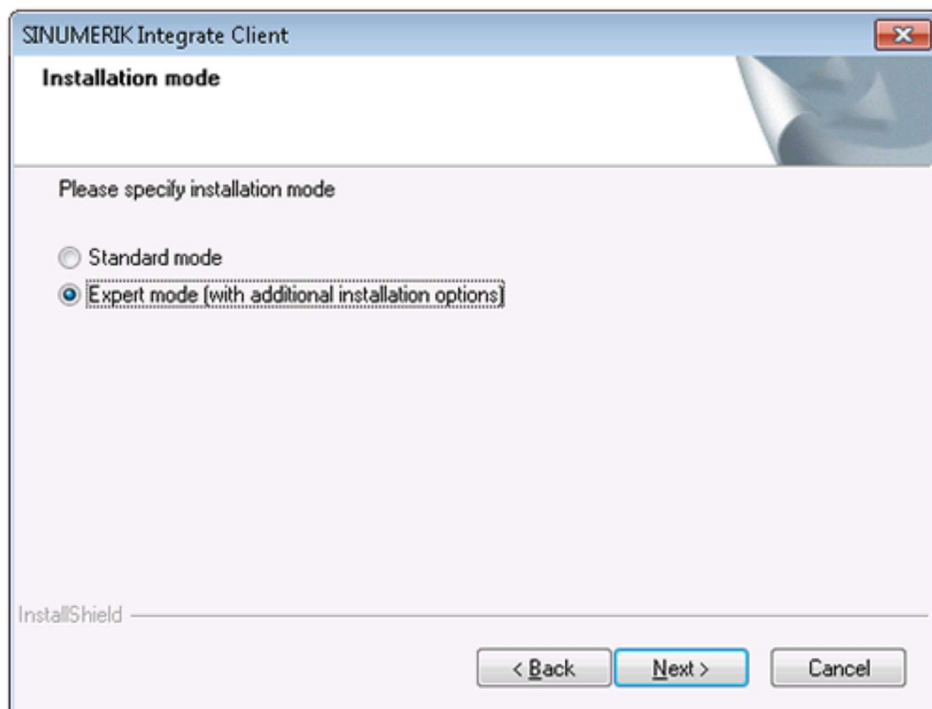
4. The welcome dialog box opens. The installation language is English. Click "Next >" to start the installation.



5. The "License Agreement" window opens. Read the license agreement.
- Click "Print" if you want to print out the terms.
 - Then activate the "I accept the terms of the license agreement" checkbox and click "Next >".
- OR -
- Click "< Back" to return to the previous window.

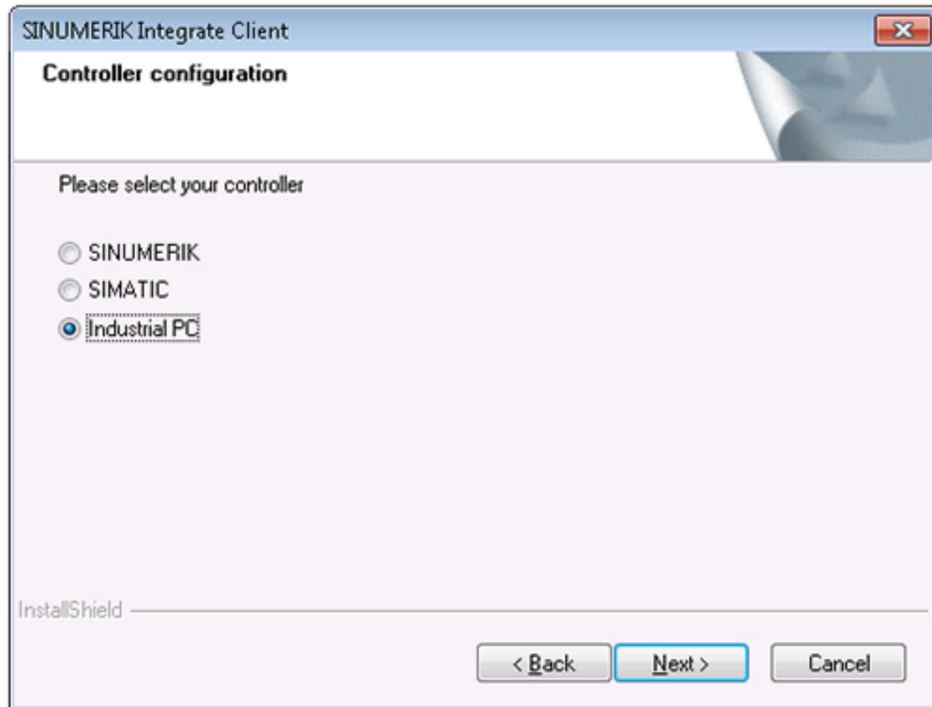


6. The "Installation mode" window opens.
 - Select the "Expert mode (with additional installation options)" checkbox.
 - Click "Next >".

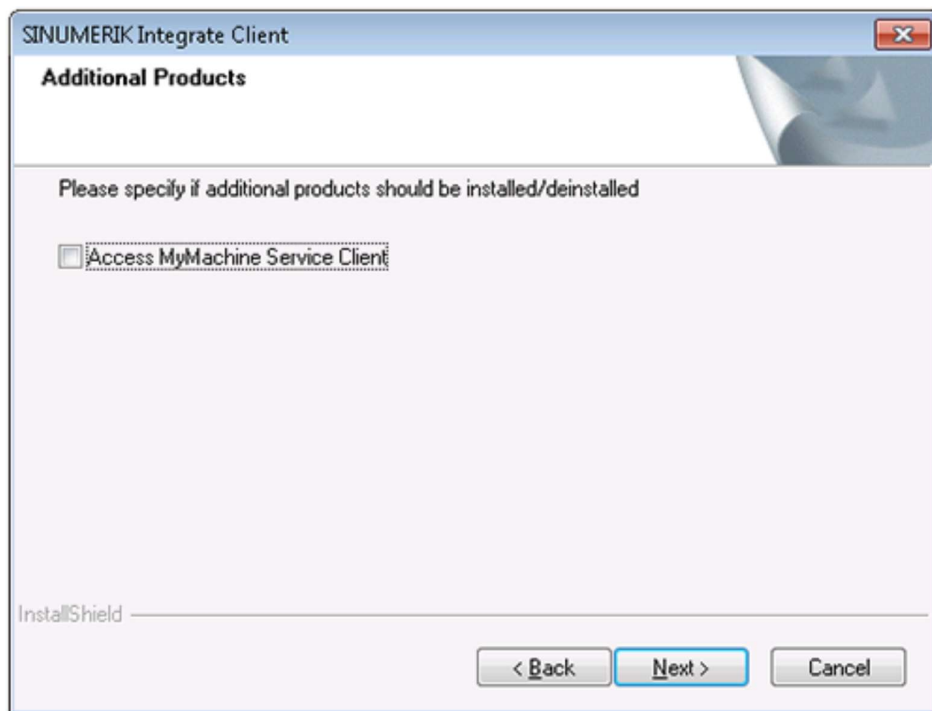


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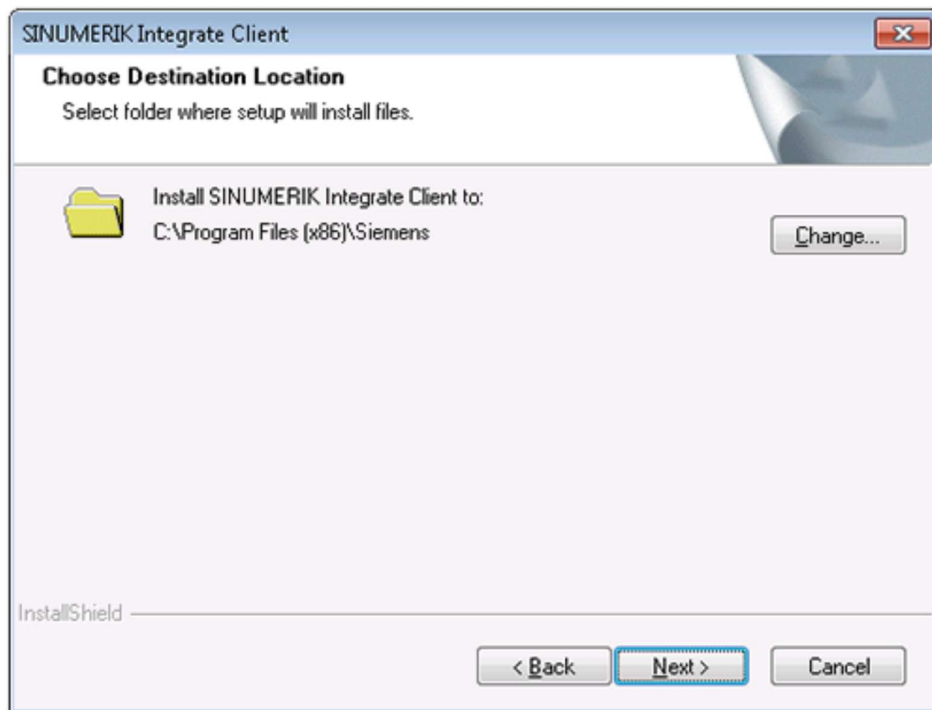
7. The "Controller configuration" window opens.
 - Activate the "Industrial PC" checkbox.
 - Click "Next >".



8. The "Additional Products" window opens.
 - Click "Next >".



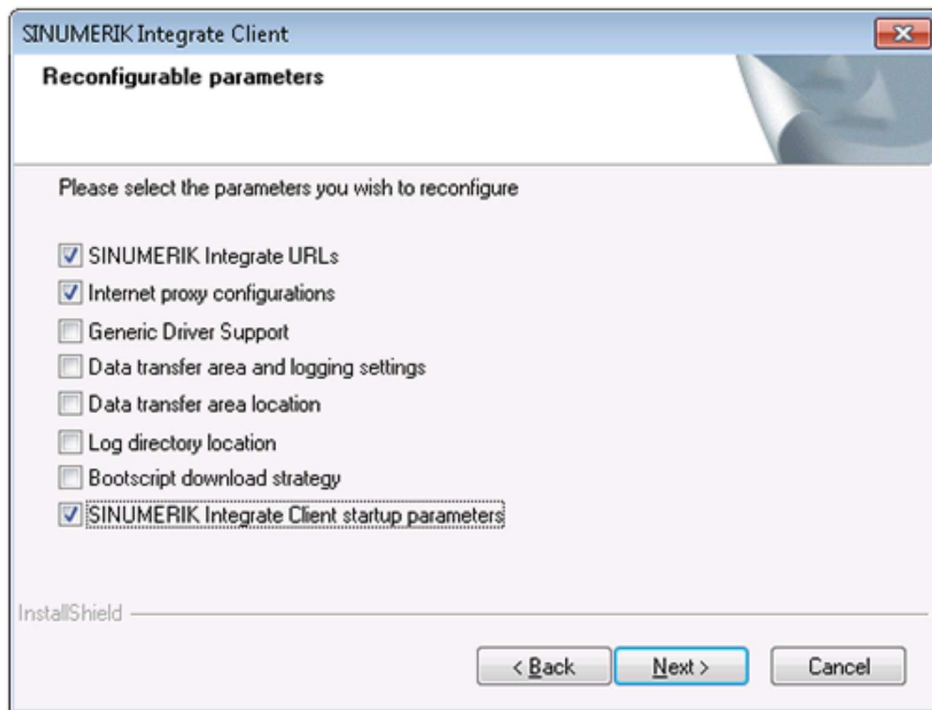
9. The "Choose Destination Location" window opens and the installation directory is displayed.
- Click "Next >".
 - OR -
 - Click "Change..." to change the directory.



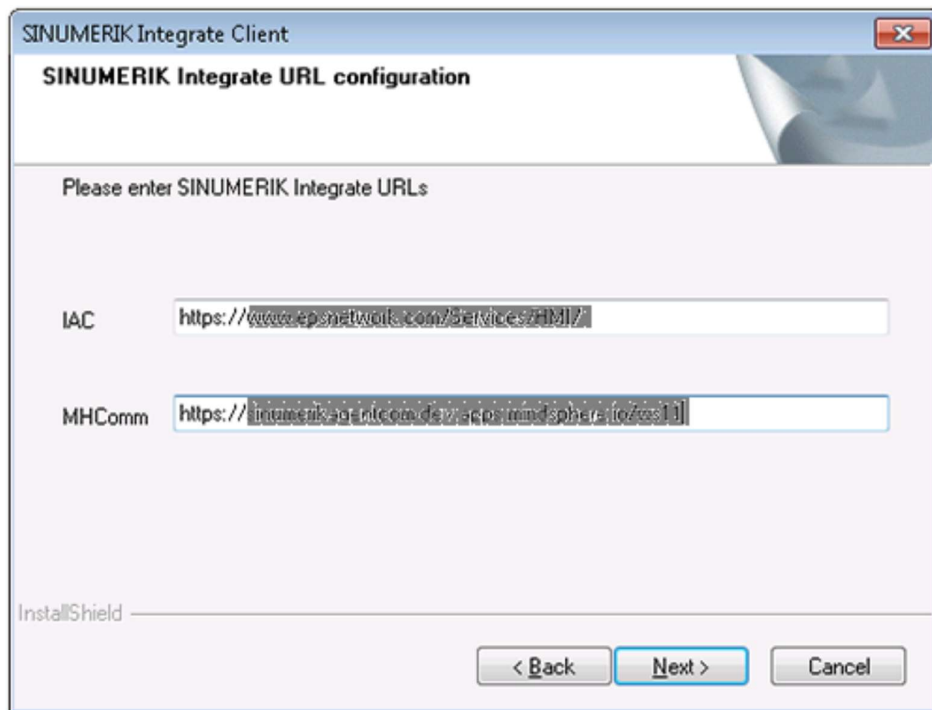
10. The "Reconfigurable parameters" window opens.

Activate the checkbox:

- "SINUMERIK Integrate URLs"
- "Internet proxy configurations"
- "SINUMERIK Integrate Client startup parameters"
- Click "Next >".



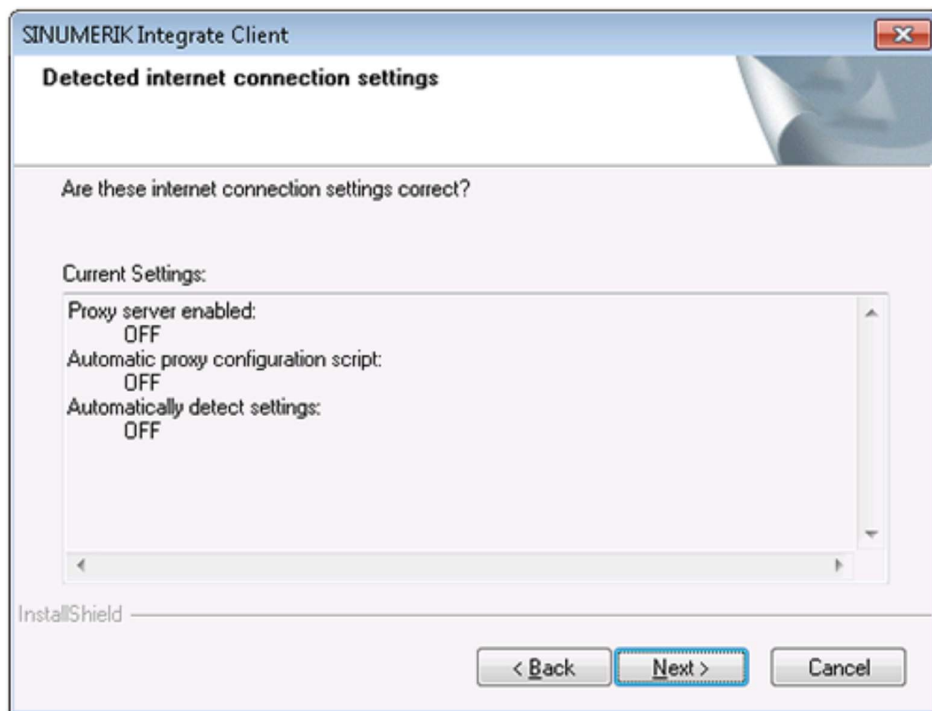
11. The "SINUMERIK Integrate URL configuration" window opens.
The proxy server is required to connect the control to MindSphere.
Enter the following WebService URL:
- MindSphere V3 Livesystem:
<https://gateway.eu1.mindsphere.io/api/agentcommmmops/v3/ws11>
 - Click "Next >".



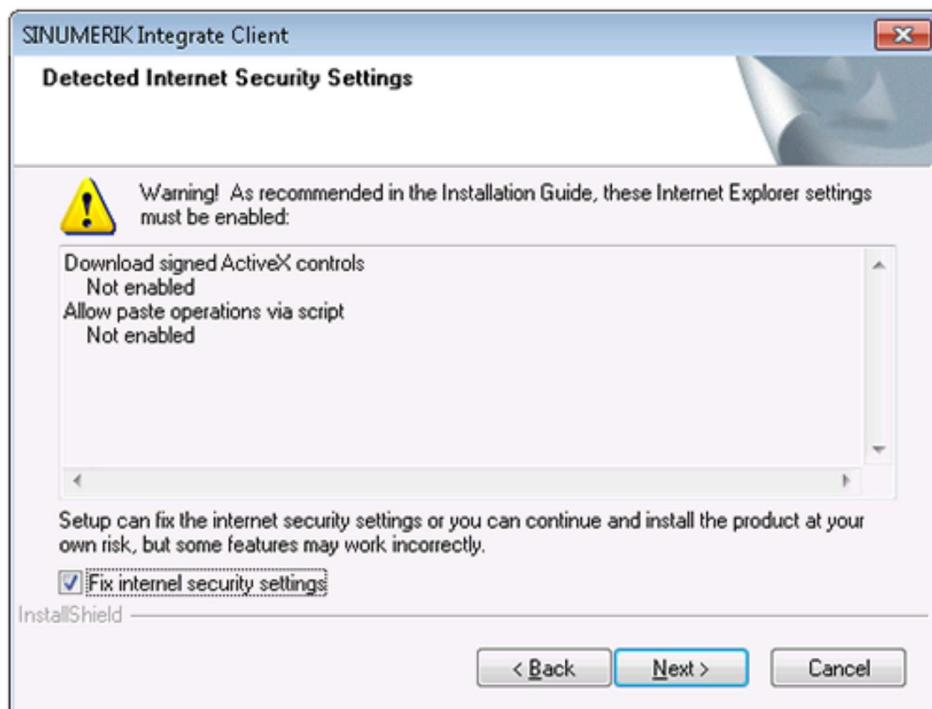
12. The following message is displayed.
Click "OK" to adapt the proxy server.



13. The "Detected internet connection settings" window is displayed.
Click "Next >".



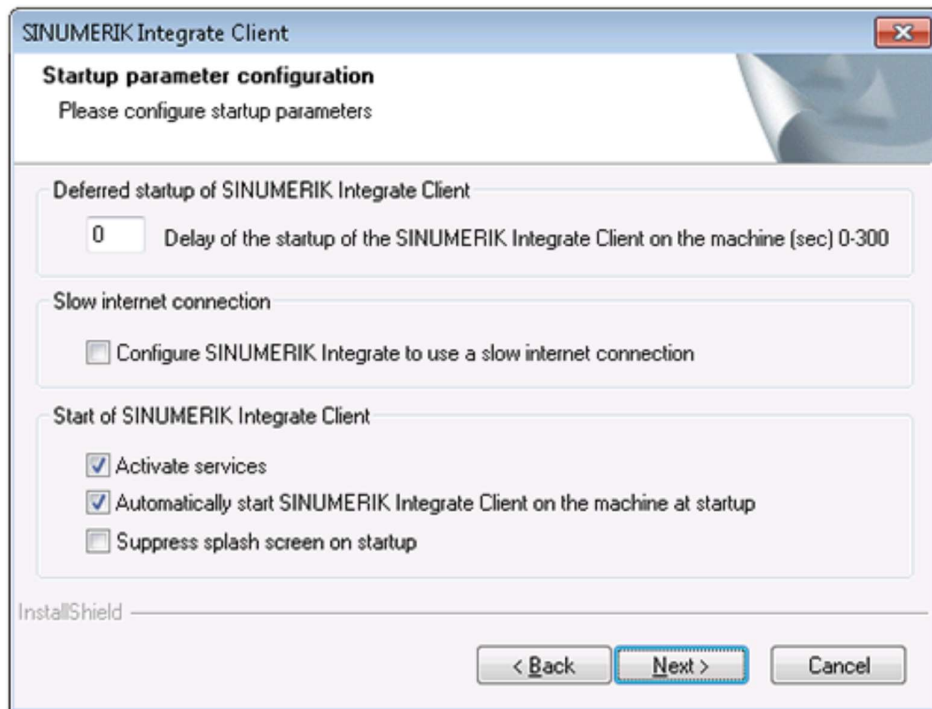
14. The "Detected Internet Security Settings" window is displayed.
- Activate the "Fix internal security settings" checkbox.
 - Click "Next >".



15. The "Startup parameter configuration" window opens.

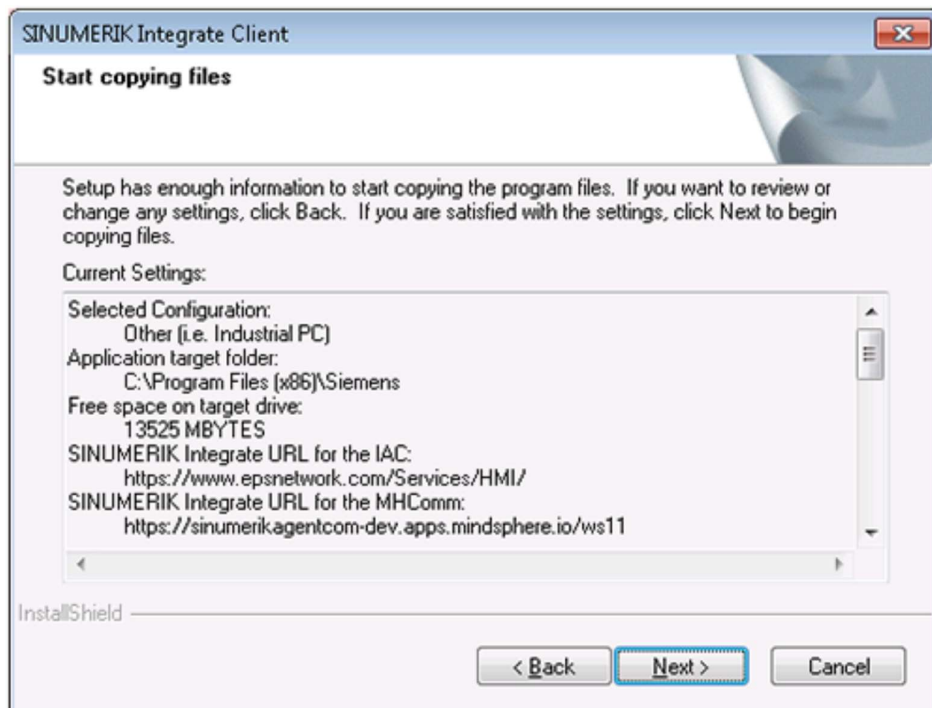
Under "Start of SINUMERIK Integrate Client", activate the checkbox:

- "Activate services"
- "Automatically start SINUMERIK Integrate Client on the machine at startup"
- Click "Next >".

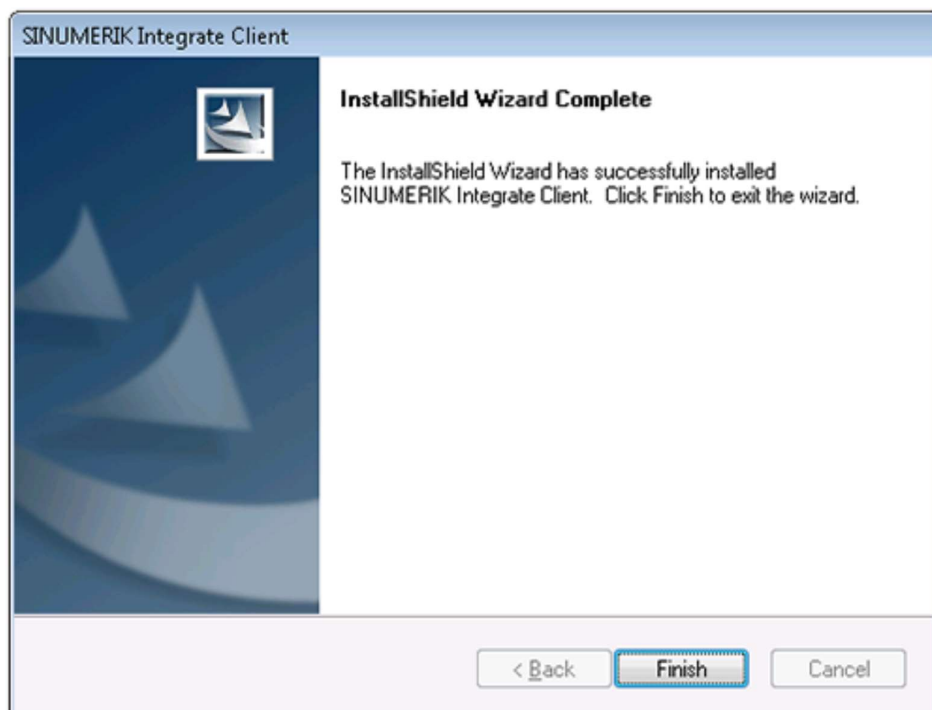


16. The "Start copying files" window opens, and the settings made are displayed.

- Click "Next >" to copy the data to the IPC.

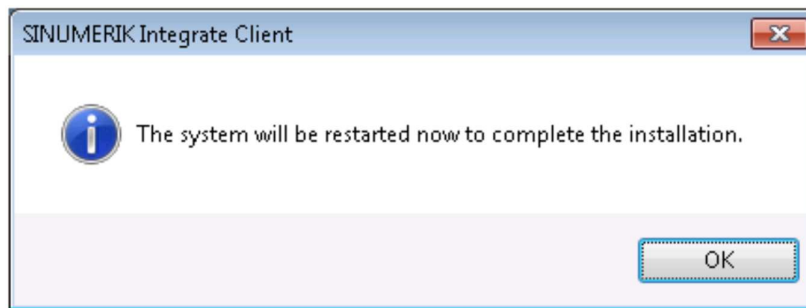


17. The "InstallShield Wizard Complete" window opens.
Click "Finish".



18. You see a message to execute a restart.

To do this, click "OK".

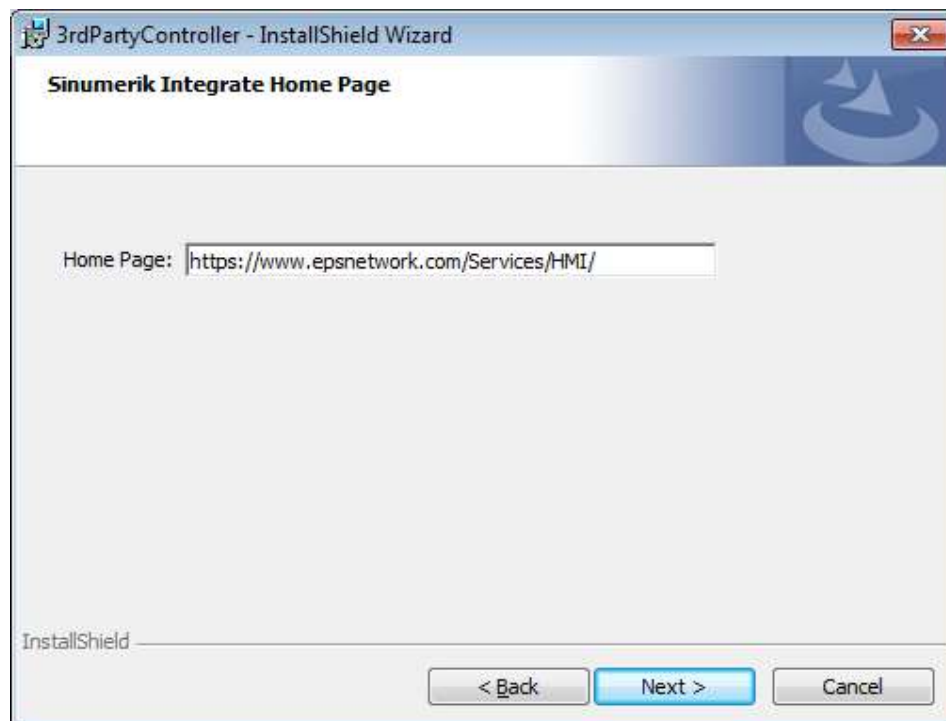


2.1.3 Installation of 3rdPartyController

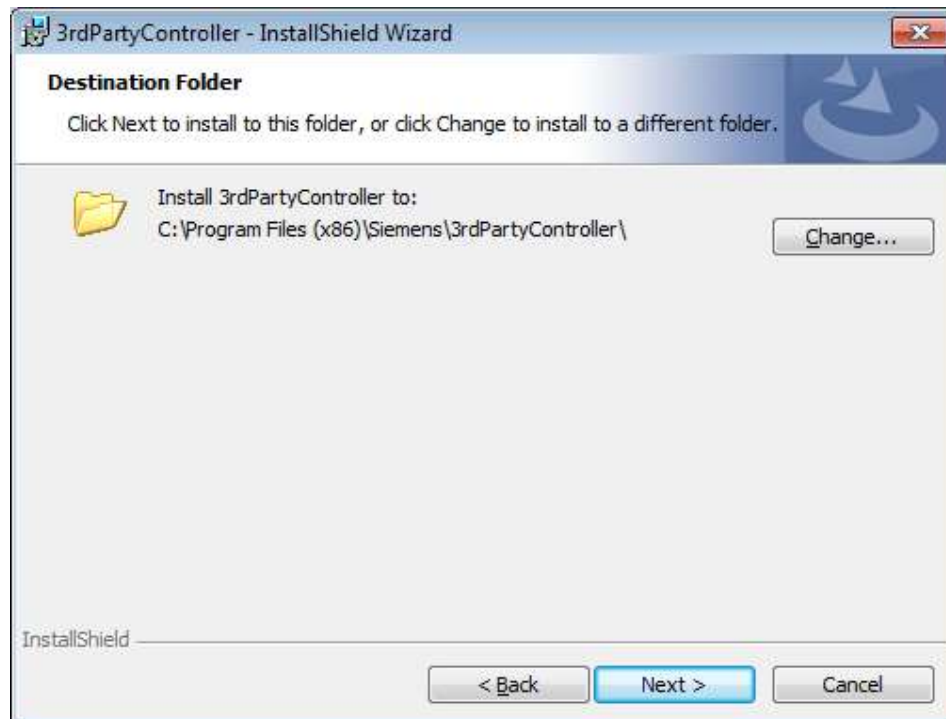
Double click on 3rdPartyControllerSetup.exe installer setup file and follow the guidelines.



When asked for Sinumerik Integrate Home Page, just press next:



A few screens later, your installation is just about to begin. It is preferred to keep default installation folder for 3rd Party Controller.



Once installation is complete, installer will ask for a restart. It is preferred to answer **No** to this question, because we want to edit ePS-Client settings file and replace the default technology driver with our driver. Currently two drivers are available in the 3rd Party

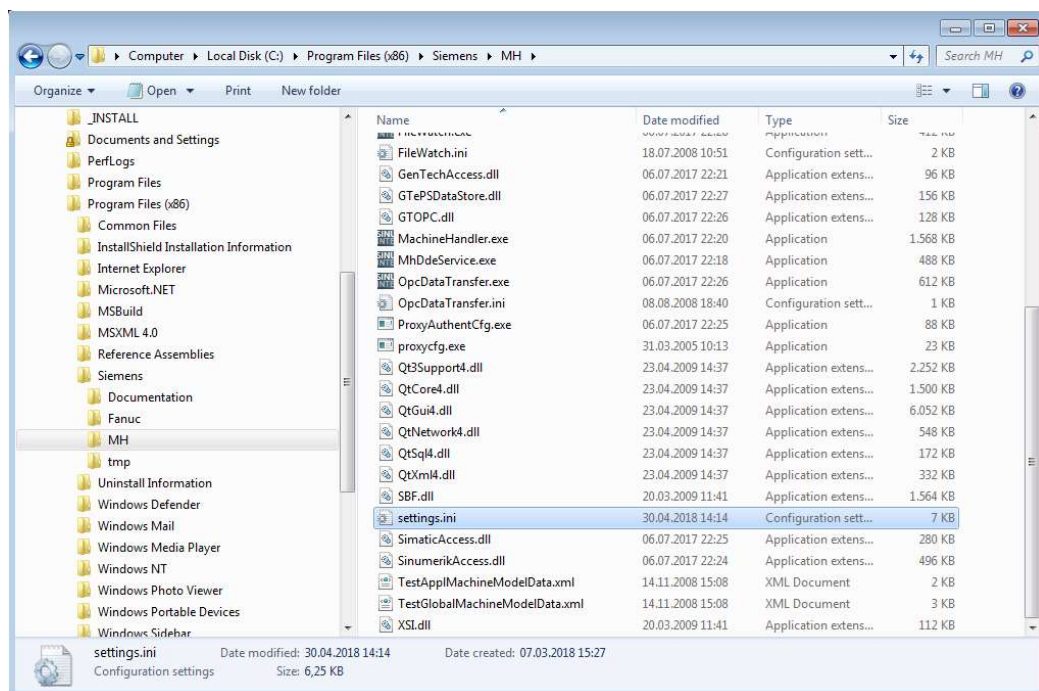
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Controller package Fanuc driver and MTConnect driver. We have to choose one or another.



2.1.4 Replacing the technology driver with MTConnect

In the main binaries folder of ePS-Client, locate and open settings.ini file. Should be present at: C:\Program Files(x86)\Siemens\MH\



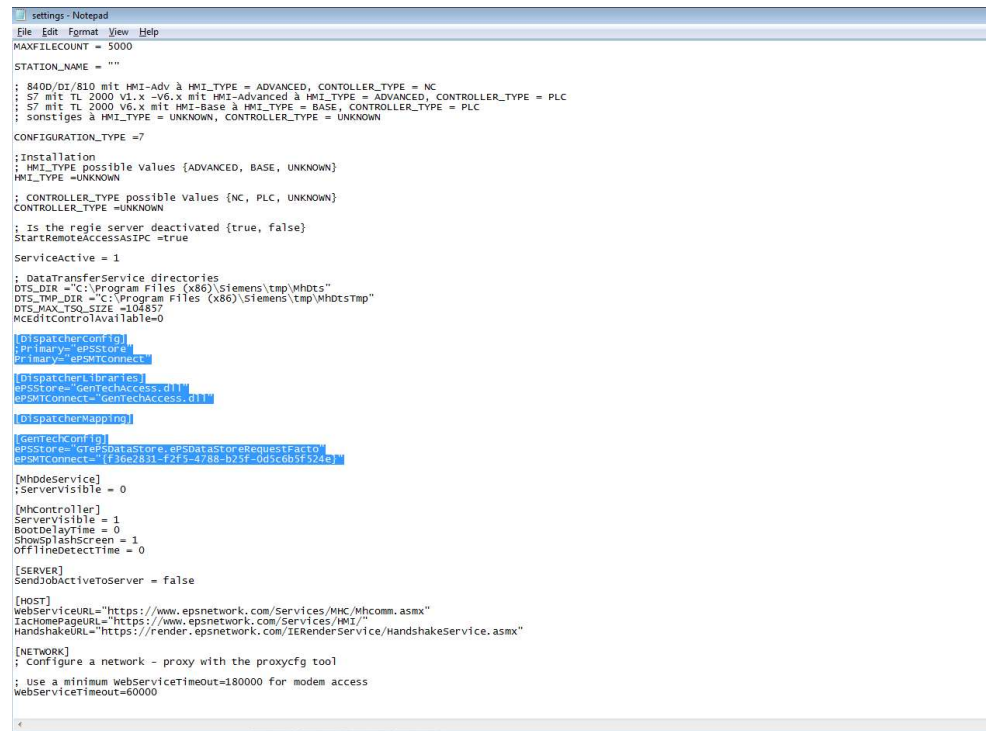
Open the file in any text editor, but do so under Administrator account because you may not have privileges as normal user to modify that file. Look for [DispatcherConfig], [DispatcherLibraries] and [GenTechConfig] sections, and modify them like this:

```
[DispatcherConfig]
;Primary="ePSStore"
Primary="ePSMTConnect"
```

```
[DispatcherLibraries]
ePSStore="GenTechAccess.dll"
ePSMTConnect="GenTechAccess.dll"
```

```
[DispatcherMapping]
```

```
[GenTechConfig]
ePSStore="GTePSDataStore.ePSDataStoreRequestFacto"
ePSMTConnect="{f36e2831-f2f5-4788-b25f-0d5c6b5f524e}"
```



```
settings - Notepad
File Edit Format View Help
MAXFILECOUNT = 5000
STATION_NAME = ""
; 84DD/DT/SIO mit HMI-Adv à HMI_TYPE = ADVANCED, CONTROLLER_TYPE = NC
; 57 mit TL 2000 V1.x -V6.x mit HMI-Advanced à HMI_TYPE = ADVANCED, CONTROLLER_TYPE = PLC
; 57 mit TL 2000 V6.x mit HMI-Base à HMI_TYPE = BASE, CONTROLLER_TYPE = PLC
; sonstiges à HMI_TYPE = UNKNOWN, CONTROLLER_TYPE = UNKNOWN
CONFIGURATION_TYPE = 7
; Installation
; HMI_TYPE possible values {ADVANCED, BASE, UNKNOWN}
HMI_TYPE = UNKNOWN
; CONTROLLER_TYPE possible values {NC, PLC, UNKNOWN}
CONTROLLER_TYPE = UNKNOWN
; Is the regie server deactivated {true, false}
StartRemoteAccessASZPC = true
ServiceActive = 1
; DataTransferService directories
DTS_DIR = "C:\Program Files (x86)\Siemens\temp\MHdts"
DTS_TMP_DIR = "C:\Program Files (x86)\Siemens\temp\MHdtsTmp"
DTS_MAX_TSQ_SIZE = 104857
MceditControlAvailable=0
[DispatcherConfig]
;Primary="ePSStore"
Primary="ePSMTConnect"
[DispatcherLibraries]
ePSStore="GenTechAccess.dll"
ePSMTConnect="GenTechAccess.dll"
[DispatcherMapping]
[GenTechConfig]
ePSStore="GTePSDataStore.ePSDataStoreRequestFacto"
ePSMTConnect="{f36e2831-f2f5-4788-b25f-0d5c6b5f524e}"
[MhdsService]
;ServerVisible = 0
[Mhcontroller]
ServerVisible = 1
BootDelayTime = 0
ShowSplashScreen = 1
OfflineDetectTime = 0
[SERVER]
SendJobActiveToServer = false
[HOST]
WebserviceURL="https://www.epsnetwork.com/Services/MHC/Mhcomm.asmx"
IachomePageURL="https://www.epsnetwork.com/Services/HMI/"
HandshakeURL="https://render.epsnetwork.com/IERenderService/handshakeService.asmx"
[NETWORK]
; Configure a network - proxy with the proxycfg tool
; use a minimum WebserviceTimeout=180000 for modem access
WebserviceTimeout=60000
```

Once settings.ini file of ePS-Client is modified and saved, we have to provide MTConnect agent machine description file. Please replace content of example machine description file with a proper machine description file in:

C:\Program Files(x86)\Siemens\cppagent_bin\bin\agent.cfg

Any information regarding syntax of a file is provided on cppagent project site:

<https://github.com/mtconnect/cppagent>

Then execute c:\Program Files (x86)\Siemens\MH\registerMTConnectModule.bat with the Administrator rights (right mouse click on bat file and choose Run as Administrator option).

After that we have to restart a Windows machine.

2.1.5 MT Connect and Mindsphere

If you want to connect your machine you need to first make sure that MTConnect is properly configured on the machine site. If you need some help with it you can visit <https://www.mtconnect.org/> project website.

If your machine is properly configured you can start with configuring agent on the IPC site.

Navigate to "C:\Program Files\Siemens\cppagent_bin\bin"

There is a file named agent.cfg, you can open it in notepad.exe or in any other editor.

By default, you can find there following content:

```
1  Devices = ../simulator/VMC-3Axis.xml
2  AllowPut = true
3  ReconnectInterval = 1000
4  BufferSize = 17
5  SchemaVersion = 1.4
6
7  Adapters {
8      VMC-3Axis {
9          Host = 127.0.0.1
10         Port = 7878
11     }
12 }
13
14 Files {
15     schemas {
16         Path = ../schemas
17         Location = /schemas/
18     }
19     styles {
20         Path = ../styles
21         Location = /styles/
22     }
23     Favicon {
24         Path = ../styles/favicon.ico
25         Location = /favicon.ico
26     }
27 }
28
29 StreamsStyle {
30     Location = /styles/Streams.xsl
31 }
32
33 # Logger Configuration
34 logger_config
35 {
36     logging_level = debug
37     output = cout
38 }
```

By default agent is configured to listen on localhost IP address. You need to replace it with IP address of your machine. For example:

```

6  Adapters
7  {
8      Adapter_1
9      {
10         Host = 172.27.33.128
11         Port = 7878
12     }
13 }

```

The next important think is configuring .xml file, which define yours machine.
This is an example of .xml file

```

1 <NTConnectDevices xmlns="urn:mimconnect.org:NTConnectDevices:1.4" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns="urn:mimconnect.org:NTConnectDevices:1.4" xsi:schemaLocation="urn:mimconnect.org:NTConnectDevices:1.4"
2 <Header creationTime="2018-04-01T12:19:54Z" sender="mimconnect" instanceId="1364799780" version="1.4.0.0" assetBufferSize="1024" assetCount="0" bufferSize="131072"/>
3 <Device
4 <Device id="HACH_19" name="HACH_NAME" uuid="HACH_SERIAL">
5 <DataItem
6 <DataItem category="EVENT" id="availability" name="availability" type="AVAILABILITY"/>
7 <DataItem category="EVENT" id="stop" name="stop" type="EMERGENCY_STOP"/>
8 <DataItem category="CONDITION" id="condition_system" name="system" type="SYSTEM"/>
9 <DataItem category="CONDITION" id="condition_activated" name="activated" type="ACTUATOR"/>
10 <DataItem category="CONDITION" id="condition_logic_program" name="logic_program" type="LOGIC_PROGRAM"/>
11 </DataItem>
12 </Device>
13 <Component>
14 <Axes id="ax" name="Axes">
15 <Component>
16 </Axes>
17 <Controller id="controller1" name="cn1">
18 <DataItem
19 <DataItem category="EVENT" id="/Bag/State/eqMode[ul]" name="cn1_mode" type="CONTROLLER_MODE"/>
20 <DataItem category="SAMPLE" id="/Wch/Configuration/accessLevel" name="accessLevel" type="EXECUTION"/>
21 </DataItem>
22 <Component>
23 <Path id="path1" name="pl">
24 <DataItem
25 <DataItem category="SAMPLE" id="/Channel/State/programState[ul]" name="pl_execution" type="EXECUTION"/>
26 <DataItem category="EVENT" id="/Channel/State/stopCmd[ul]" name="pl_optional_stop" type="CONTROLLER_MODE OVERRIDE" subType="OPTIONAL_STOP"/>
27 <DataItem category="SAMPLE" id="/Channel/Program/pointer/programName[ul]" name="pl_program" type="PROGRAM"/>
28 <DataItem category="SAMPLE" id="/Channel/Spindle/feedRate[ul]" name="pl_feed_override" type="PATH_VELOCITY_OVERRIDE" subType="PROGRAMMED" units="PERCENT"/>
29 <DataItem category="SAMPLE" id="/Channel/Spindle/spindleSpeed[ul]" name="pl_spindle_override" type="ROTARY_VELOCITY_OVERRIDE" subType="PERCENT"/>
30 </DataItem>
31 </Path>
32 </Component>
33 </Controller>
34 </Component>
35 </Device>
36 </Device>
37 </NTConnectDevices>
38

```

If you want to achieve proper functionality of MMM/Dashboard you need to fulfill following id's:

```

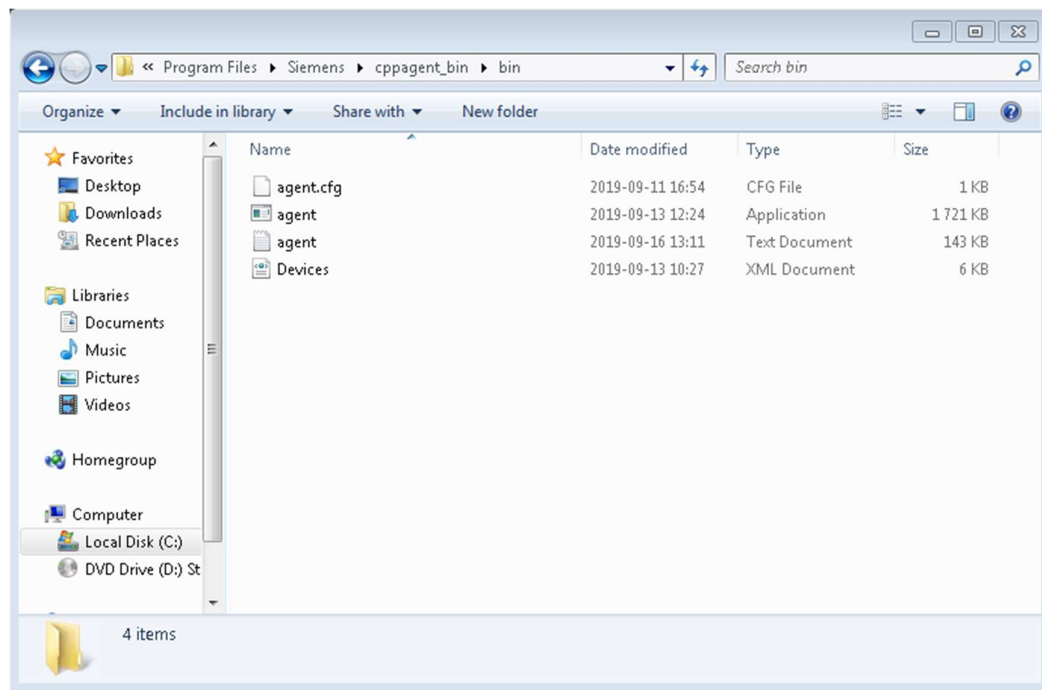
<Controller id="controller1" name="cml">
  <DataItems>
    <DataItem category="EVENT" id="/Bag/State/sgMode[ui]" name="cml_mode" type="CONTROLLER_MODE"/>
    <DataItem category="SAMPLE" id="/Wck/Configuration/accessLevel" name="accessLevel" type="EXECUTION"/>
  </DataItems>
  <Components>
    <Path id="path1" name="p1">
      <DataItems>
        <DataItem category="SAMPLE" id="/Channel/State/progStatus[ui]" name="p1_execution" type="EXECUTION"/>
        <DataItem category="EVENT" id="/Channel/State/stopCond[ui]" name="p1_optional_stop" type="CONTROLLER_MODE_OVERRIDE" subType="OPTIONAL_STOP"/>
        <DataItem category="SAMPLE" id="/Channel/ProgramCounter/progName[ui,]" name="p1_program" type="PROGRAM"/>
        <DataItem category="SAMPLE" id="/Channel/State/feedrateTypeOverride" name="p1_feedrate_override" type="PATH_FEEDRATE_OVERRIDE" subType="PROGRAMMED" units="PERCENT"/>
        <DataItem category="SAMPLE" id="/Channel/Spindle/speedOverride[ui,]" name="p1_spindle_override" type="ROTARY_VELOCITY_OVERRIDE" units="PERCENT"/>
      </DataItems>
    </Path>
  </Components>
</Controller>

```

- /Bag/State/opMode[u1]
- /Nck/Configuration/accessLevel
- /Channel/State/progStatus[u1]
- /Channel/State/stopCond[u1]
- /Channel/ProgramPointer/progName[u1,1]
- /Channel/State/feedRatepoOvr[u1]
- /Channel/Spindle/speedOvr[u1,1]

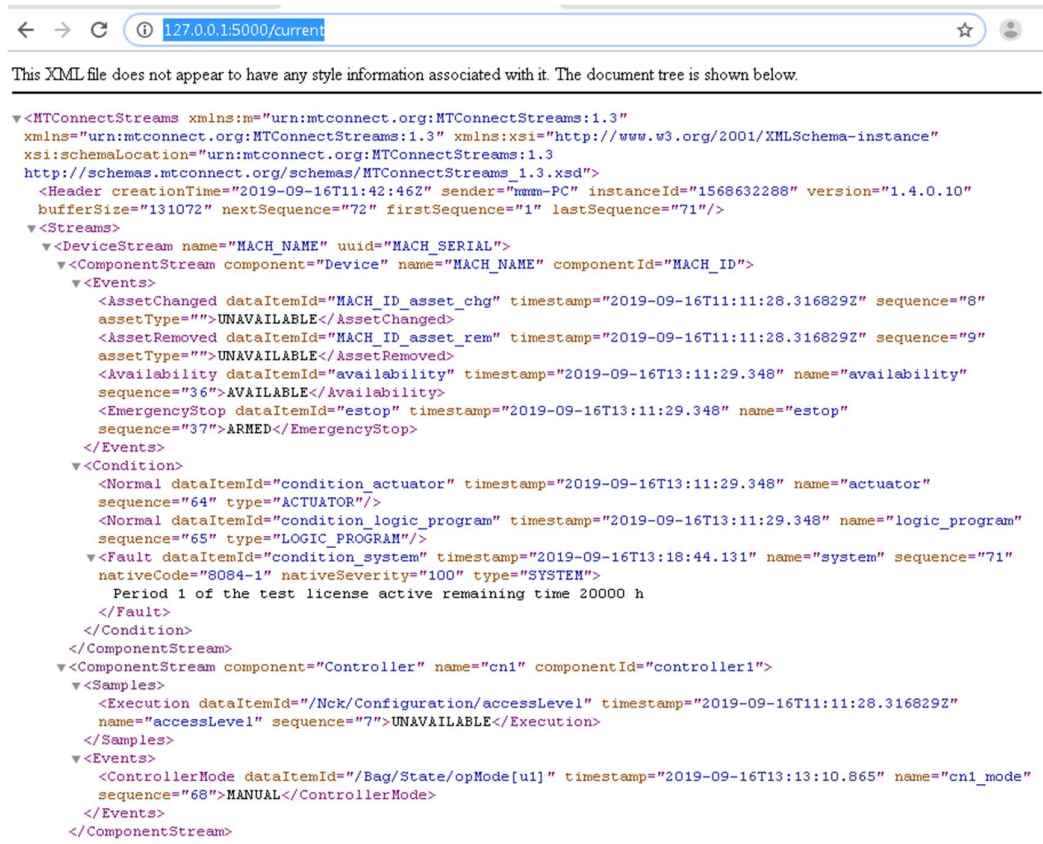
After configuration, your folder should looks like on this screen:

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Restart your PC. You can check if everything is configured properly by opening browser and checking following address <http://127.0.0.1:5000/current>. If page is not displayed you can check logs from agent. Location of agent log can be configured inside of agent.cfg file.

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```
<?xml version="1.0" encoding="UTF-8" ?>
<MTConnectStreams xmlns:m="urn:mtconnect.org:MTConnectStreams:1.3"
  xmlns="urn:mtconnect.org:MTConnectStreams:1.3" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="urn:mtconnect.org:MTConnectStreams:1.3
  http://schemas.mtconnect.org/schemas/MTConnectStreams_1.3.xsd">
  <Header creationTime="2019-09-16T11:42:46Z" sender="mm-PC" instanceId="1568632288" version="1.4.0.10"
    bufferSize="131072" nextSequence="72" firstSequence="1" lastSequence="71"/>
  <Streams>
    <DeviceStream name="MACH_NAME" uuid="MACH_SERIAL">
      <ComponentStream component="Device" name="MACH_NAME" componentId="MACH_ID">
        <Events>
          <AssetChanged dataItemId="MACH_ID_asset_chg" timestamp="2019-09-16T11:11:28.316829Z" sequence="8"
            assetType="">UNAVAILABLE</AssetChanged>
          <AssetRemoved dataItemId="MACH_ID_asset_rem" timestamp="2019-09-16T11:11:28.316829Z" sequence="9"
            assetType="">UNAVAILABLE</AssetRemoved>
          <Availability dataItemId="availability" timestamp="2019-09-16T13:11:29.348" name="availability"
            sequence="36">AVAILABLE</Availability>
          <EmergencyStop dataItemId="estop" timestamp="2019-09-16T13:11:29.348" name="estop"
            sequence="37">ARMED</EmergencyStop>
        </Events>
        <Condition>
          <Normal dataItemId="condition_actuator" timestamp="2019-09-16T13:11:29.348" name="actuator"
            sequence="64" type="ACTUATOR"/>
          <Normal dataItemId="condition_logic_program" timestamp="2019-09-16T13:11:29.348" name="logic_program"
            sequence="65" type="LOGIC_PROGRAM"/>
          <Fault dataItemId="condition_system" timestamp="2019-09-16T13:18:44.131" name="system" sequence="71"
            nativeCode="8084-1" nativeSeverity="100" type="SYSTEM">
            Period 1 of the test license active remaining time 20000 h
          </Fault>
        </Condition>
      </ComponentStream>
    <ComponentStream component="Controller" name="cn1" componentId="controller1">
      <Samples>
        <Execution dataItemId="/Nck/Configuration/accessLevel" timestamp="2019-09-16T11:11:28.316829Z"
          name="accessLevel" sequence="7">UNAVAILABLE</Execution>
      </Samples>
      <Events>
        <ControllerMode dataItemId="/Bag/State/opMode[u1]" timestamp="2019-09-16T13:13:10.865" name="cn1_mode"
          sequence="68">MANUAL</ControllerMode>
      </Events>
    </ComponentStream>
  </Streams>
</MTConnectStreams>
```

If values are not displayed correctly on the MMM/ Dashboard you need also to review the following file: "C:\Program Files\Siemens\3rdPartyController\mapMTConnect.xml". Here you can find a mapping of every message into a MindSphere code:

```

1  <?xml version="1.0" encoding="UTF-8" ?>
2  <parameters>
3      <dataValue id="/Channel/State/progStatus[u1]">
4          <element value="5">
5              <alias>CANCELED</alias>
6          </element>
7          <element value="4">
8              <alias>READY</alias>
9          </element>
10         <element value="3">
11             <alias>ACTIVE</alias>
12         </element>
13         <element value="2">
14             <alias>STOPPED</alias>
15         </element>
16         <element value="1">
17             <alias>INTERRUPTED</alias>
18         </element>
19     </dataValue>
20     <dataValue id="/Bag/State/opMode[u1]">
21         <element value="2">
22             <alias>AUTOMATIC</alias>
23         </element>
24         <element value="0">
25             <alias>MANUAL</alias>
26         </element>
27         <element value="1">
28             <alias>MANUAL_DATA_INPUT</alias>
29         </element>
30     </dataValue>
31     <dataValue id="/Channel/State/stopCond[u1]">
32         <element value="1">
33             <alias>ON</alias>
34         </element>
35         <element value="0">
36             <alias>OFF</alias>
37             <alias>UNAVAILABLE</alias>
38         </element>
39     </dataValue>
40     <dataValue id="/Nck/Configuration/accessLevel">
41         <element value="0">
42             <alias>UNAVAILABLE</alias>
43         </element>
44     </dataValue>
45 </parameters>

```

Your machine in state "Active" is sending message "Running"? Just add another alias into document (like "OFF" and "UNAVAILABLE" in section "/Channel/State/stopCond[u1]") and the application will from now on follow your new mapping.
 Note! Be sure to check if your changes are still a valid XML file!

2.1.6 Configuring MindSphere

Onboarding

To acquire data from a FANUC control, create a "Basic Device" type asset in the MindSphere Asset Manager and carry out "onboarding" like it is shown in the following chapters.

Opening the Asset Manager

1. Click on the "MindSphere Asset Manager" icon.



2. The "Asset Manager" window opens.

2.1.6.1 Creating an asset type

Note

Dedicated Asset Types

Although it is theoretically possible to use a created asset type for more than one machine, it is recommended to use a dedicated asset type for each machine in order to make the asset type customizable for every machine (e.g. with an individual picture).

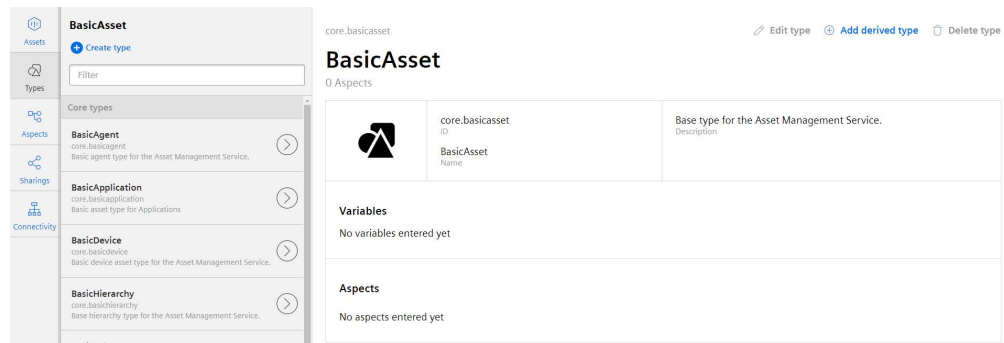
Open the "Asset Manager" window as described in chapter "Configuring MindSphere"

For further Information on the Asset Manager check the Asset Manager documentation.

Procedure

1. In the left window panel, click the "Types" button.
2. The "BasicAsset" window opens.

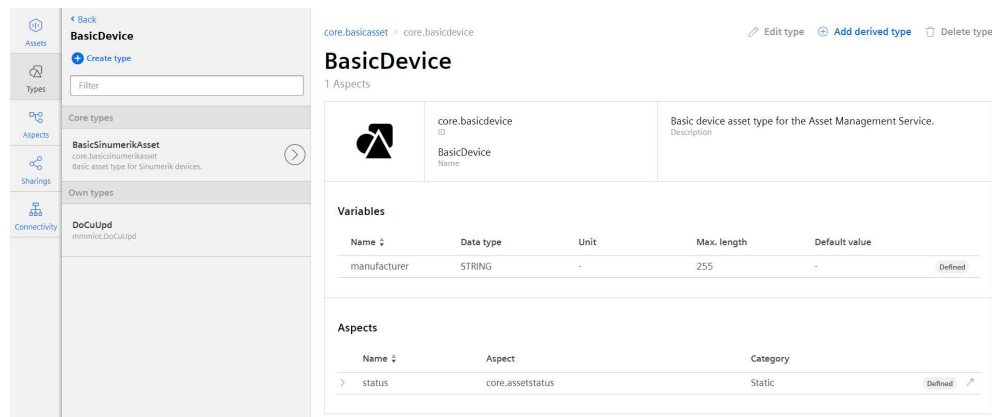
2 Engineering



3. In the center windowpane, select "BasicDevice" and click the small grey arrow (navigate to children).

The "BasicDevice" window opens.

4. In the center windowpane, click "+ Create type" to create a new asset type.



The "Create type" window open

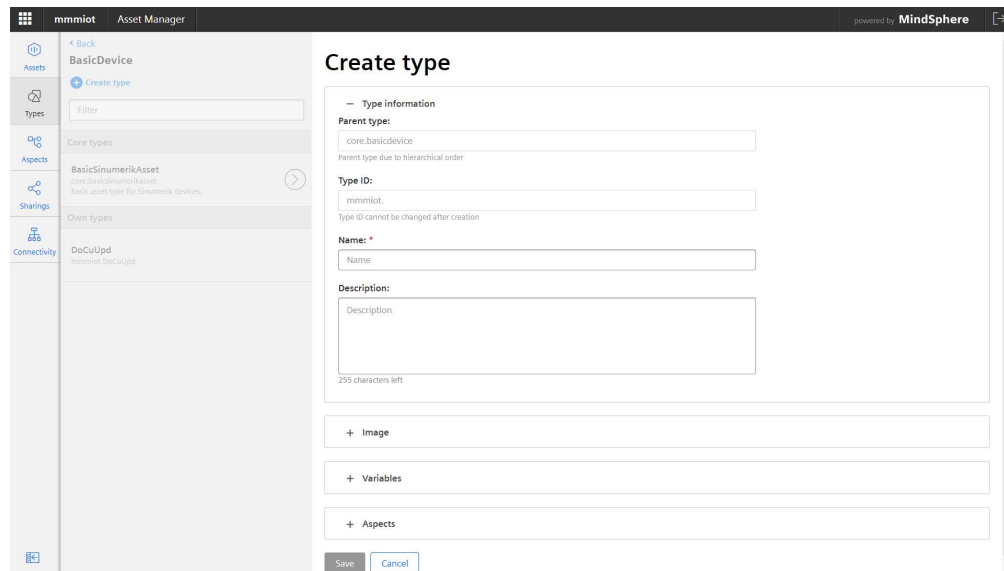
5. Enter a name for the new asset type.
Entering the name is mandatory and activates the "Save" button.
 - Enter a description of the new asset type.
 - Select an image with the maximum permitted size of 5 MB.

Note

Images in the working area

Ensure that the name of the image in your working area is unique.

- Add your chosen variables.
- Add your chosen aspects.
- Click "Save" to create the new type.



View asset type (to ensure the type is created)

1. Open the "Types" window.
2. In the center window panel, select "BasicDevice" > "BasicSinumerikAsset".
3. In the text box "Filter", enter the name.

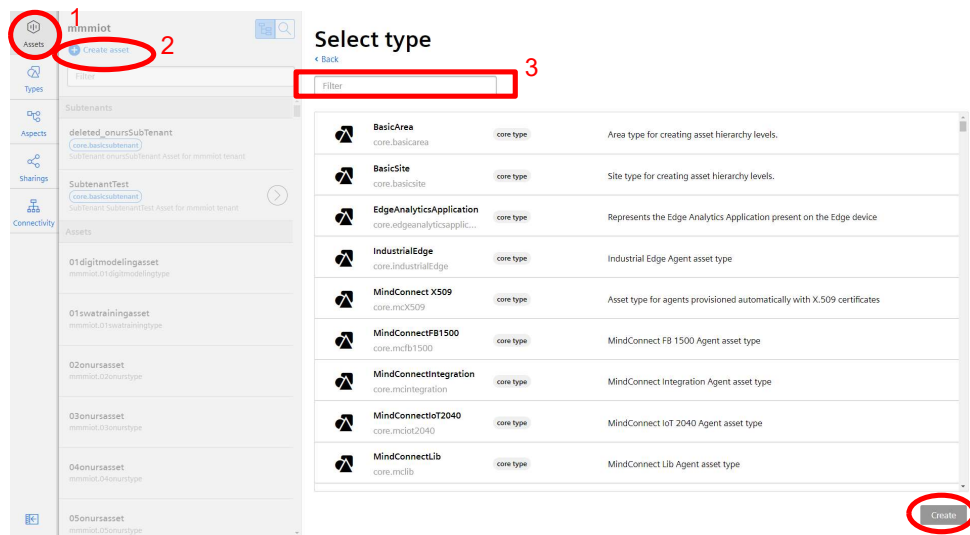
The corresponding data is displayed in the right-hand window area

2.1.6.2 Creating an asset

Open the "Asset Manager" window as described in chapter "Configuring MindSphere"

Procedure

1. In the left window panel, click "Assets".
2. In the center window panel, click "+ Create asset".
In the right window panel, you can see "Select type".
3. In the "Filter" field, enter the name of the required asset type or select the type that you have just generated, as described in chapter "Creating an asset type", from the list. Select the asset type by clicking "create" in the lower right corner.



4. The "New asset" window opens.
 - In the "Name: *" input field, enter a name. This input field is a mandatory field.
 - Populate the input fields in the "General" and "Location" areas.The "Save" button is activated.
 - Click "Save" to save the new asset.

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Assets

Types

Aspects

Filter

AMB

core.basicsubtenant

SubTenant AMB Asset for

AMB_FFG

core.basicsubtenant

SubTenant AMB_FFG (MAG) Asset

GL_WRO

core.basicsubtenant

SubTenant GL_WRO Asset for mmmdev

GL_WRO1

core.basicsubtenant

SubTenant GL_WRO1 Asset for

GL_WRO2

core.basicsubtenant

SubTenant GL_WRO2 Asset for

01onurssecondasset

mmmdev.01onurssecondtype

02onurssecondasset

mmmdev.02onurssecondtype

0402iot2040

ssire.mciot2040

0_Timezone Istanbul

mmmdev.basicnumerikampasset

11_02_melih_1

mmmdev.1102_melih_1

11h06gokalp8ocak19asset111

mmmdev.gokalp8ocak19type11h06

19032019RegressionTestAsset

mmmdev.19032019RegressionTestAsset

20032019TestAsset

mmmdev.20032019AssetType1

21032019TestAsset

mmmdev.21032019TestAssetType

270CellIA

mmmdev.270CellIT

28022019FileUploadAsset1

mmmdev.28022019FileUploadAssetType

Add asset

General

Type ID:

mmmdev.SinumerikBasicType1

Selected type of asset cannot be changed

Name: *

Name

Description:

Description

255 characters left

Location

Street:

Street

Postal code:

Postal code

City:

City

Country:

Country

Region:

Region

Latitude:

45.00000001

Longitude:

45.00000001

Time zone:

Select...

Variables

No variables entered yet

Aspects

Name	Aspect	Category
> connectivityStatus	core.connectivitystatus	Static
> status	core.agentstatus	Dynamic

* Required input field

Save Cancel

5. The new asset is displayed.

mmiot > mytestasset

Edit asset Add child asset

mytestasset

MTA Asset Config

Basic settings

Street

Postal code

Region

Latitude

Europe/Berlin

Time zone

City

Country

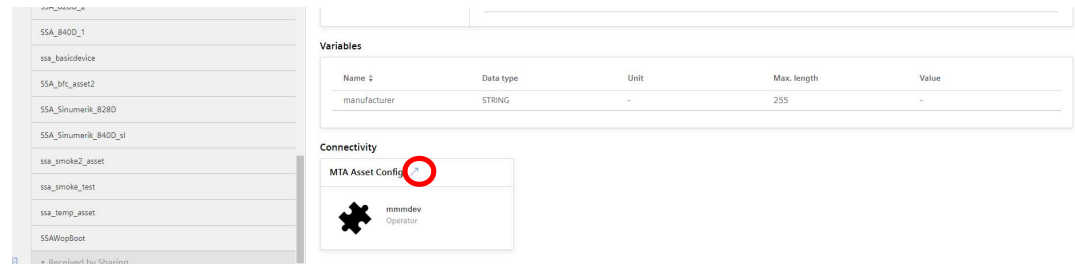
Longitude

2 Engineering

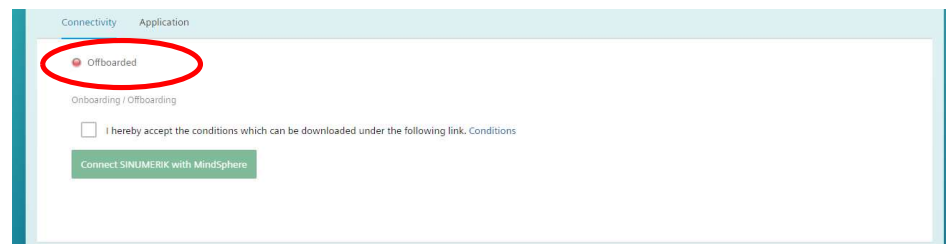
2.1.6.3 Onboarding an asset

Open the "Asset Manager" window as described in chapter "Configuring MindSphere"

1. Select an asset in the center windowpane.
2. Click the blue arrow icon next to "MTA Asset Config" icon in the bottom side of the webpage:



3. The "MTA Asset Config" window opens, and you can see the connection status in the "Connectivity" tab, e.g. "Offboarded"



4. Select the "I hereby accept the conditions, which can be downloaded under the following link. Conditions" check box.

- Click the "Conditions" link.

The "MindSphere Terms & Conditions" window opens.

- Click on your region.

- From the list, select the appropriate Terms & Conditions.

- Read the Terms & Conditions.

- OR -

Download the Terms & Conditions.

- OR -

Print the Terms & Conditions.

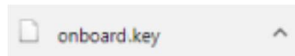
- Close the window.

The "Connectivity" window is displayed again.

5. Click the "Connect SINUMERIK with MindSphere" button to connect the asset with MindSphere.

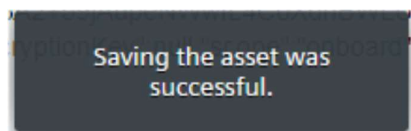
More information on Asset Manager can be found in the following documentation: "Manage MyMachines" Function Manual, in the "Integrating MindSphere" Chapter.

6. The "onboard.key" is generated and shown below the status bar. Please note that you neither change the name nor content of the file.



7. Click the "Save" button to accept the entries and save a consistent version of the configuration.

Wait for confirmation that the asset was successfully saved.



8. Then copy the "onboard.key" to the control system.

Insert the "onboard.key" file into the "boot_job" folder.

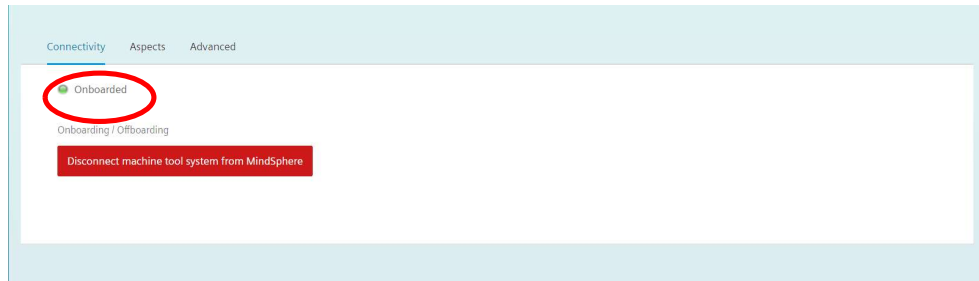
Alternatively, you can also insert the "onboard.key" file into the following directory: /user/sinumerik/hmi/appl.

If there is already a "cert.key" file in the /var/tmp/boot_job folder, the control was already connected to MindSphere. If you want to establish a new connection, then delete the existing file and insert the new "onboard.key" file.

Note

It is recommended to use an External drive (e.g. 4GB USB Pen) or network fileshare to transfer the onboard.key file into the respective directory.

9. The displayed green lamp next to the connectivity status "Onboarded" indicates that the onboarding procedure was successful.



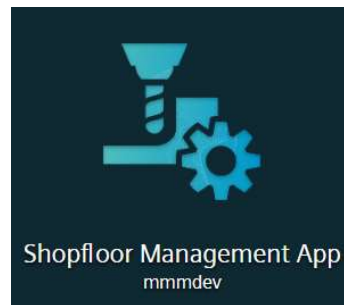
2.2 Operation

2.2.1 Activating the data acquisition

2.2.1.1 Overview

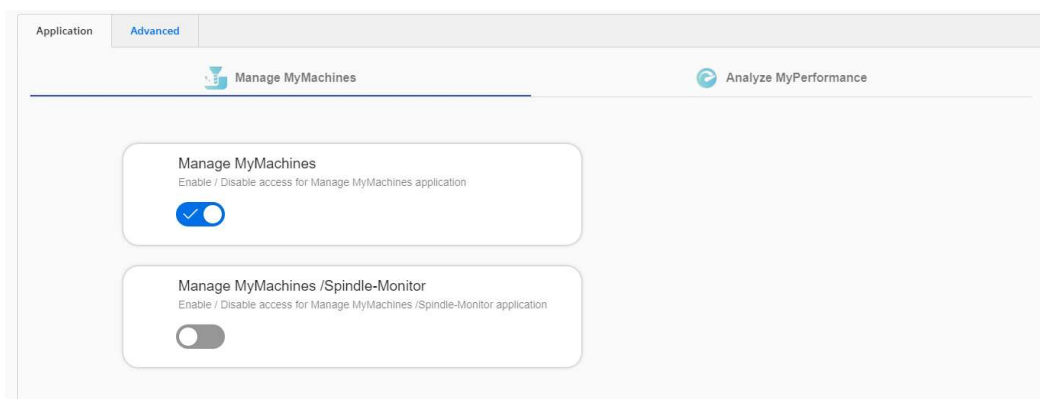
The "Shopfloor Management Application" MindSphere application allows you to configure the assets.

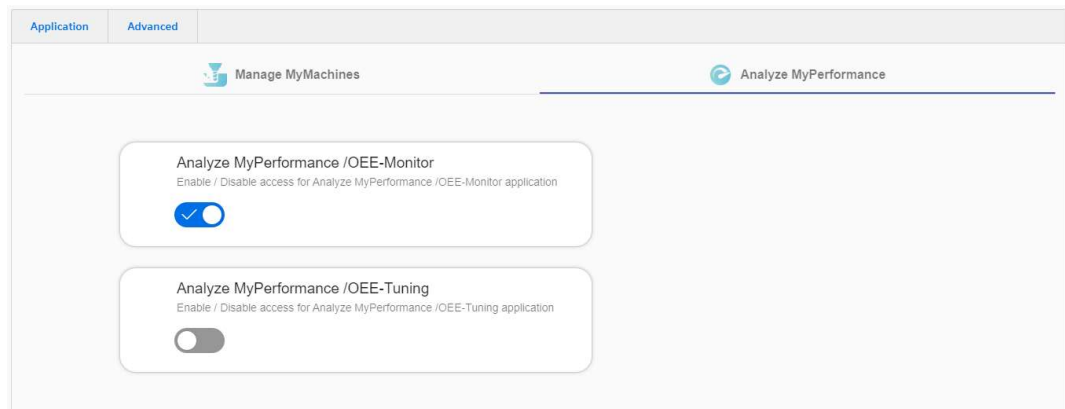
1. Click "Shopfloor Management Application" app:



2. Find the required asset using "Search..." panel.
3. Click the "Application" tab.

The following slide toggles are available in the "Application" tab:

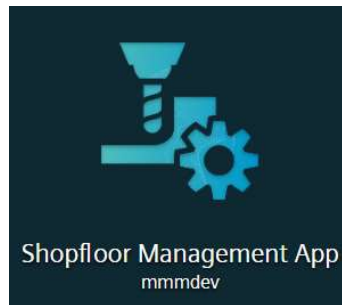




- **Manage MyMachines**
Activation/deactivation of access to the "Manage MyMachines" application
- **Analyze MyPerformance**
Activation/deactivation of access to the "Analyze MyPerformance" application

2.2.1.2 Procedure

1. Click "Shopfloor Management Application" app:



2. Find the required asset using "Search..." panel.
3. Click the "Application" tab:
If you wish to activate of access to the "Manage MyMachines" application for this asset, select Manage MyMachines tab:
 - Set the slide toggle for "Manage MyMachines" to "ON" to activate Manage MyMachines usage for this asset
 - Set the slide toggle for "Manage MyMachines /Spindle-Monitor" to "ON" to activate Manage MyMachines/Spindle-Monitor usage for this asset
 - Click "Save" to save the settings.If you wish to activate of access to the "Analyze MyPerformance" application for this asset, select Analyze MyPerformance tab:
 - Set the slide toggle for "Analyze MyPerformance /OEE-Monitor" to "ON" to activate Analyze MyPerformance /OEE-Monitor usage for this asset
 - Set the slide toggle for "Analyze MyPerformance /OEE-Tuning" to "ON" to activate Analyze MyPerformance /OEE-Tuning usage for this asset
 - Click "Save" to save the settings.

NOTICE

Deactivation of the Application

If you want to deactivate the application in order to stop the data acquisition and thus to stop the payment rhythm, set the slide toggle for the application to “OFF”.

Note that each time you set the slide toggle to “ON” fees are incurred.

Important:

Please note that if you disable the following toggle for Manage MyMachines access and enable the toggle again, according to the Terms and Conditions the Pricing Model will be charged again.

Please note that if you disable the following toggle for Analyze MyPerformance access and enable the toggle again, according to the Terms and Conditions the Pricing Model will be charged again.

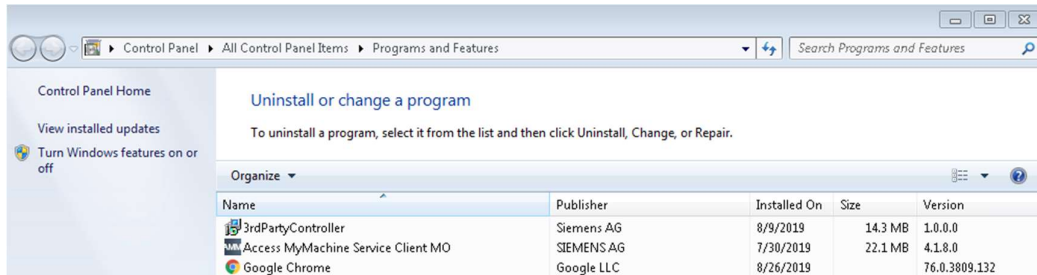
2.2.2 Uninstall procedure

2.2.2.1 Restore ePS-Client settings file

ePS-Client settings file needs to be restored, otherwise it can still try to load 3rdParty technology driver which will no longer be present once 3rdPartyController is uninstalled.

2.2.2.2 Uninstall 3rdPartyController

Use Control Panel to locate 3rdPartyController installation. Simply press uninstall.



After uninstall is complete, machine need not to be restarted.

3 Appendix

3.1 Service and support

Industry Online Support

Do you have any questions or need assistance?

Siemens Industry Online Support offers round the clock access to our entire service and support know-how and portfolio.

The Industry Online Support is the central address for information about our products, solutions and services.

Product information, manuals, downloads, FAQs, application examples and videos – all information is accessible with just a few mouse clicks:

support.industry.siemens.com

Technical Support

The Technical Support of Siemens Industry provides you fast and competent support regarding all technical queries with numerous tailor-made offers

– ranging from basic support to individual support contracts. Please send queries to Technical Support via Web form:

www.siemens.com/industry/supportrequest

SITRAIN – Training for Industry

We support you with our globally available training courses for industry with practical experience, innovative learning methods and a concept that's tailored to the customer's specific needs.

For more information on our offered trainings and courses, as well as their locations and dates, refer to our web page:

www.siemens.com/sitrain

Service offer

Our range of services includes the following:

- Plant data services
- Spare parts services
- Repair services
- On-site and maintenance services
- Retrofitting and modernization services
- Service programs and contracts

You can find detailed information on our range of services in the service catalog web page:

support.industry.siemens.com/cs/sc

Industry Online Support app

You will receive optimum support wherever you are with the "Siemens Industry Online Support" app. The app is available for iOS and Android:

support.industry.siemens.com/cs/ww/en/sc/2067

3.2 Application support

Siemens AG
Digital Factory Division
Factory Automation
Production Machines
DF FA PMA APC
Frauenauracher Str. 80
91056 Erlangen, Germany
mailto: tech.team.motioncontrol@siemens.com

3.3 Links and literature

Table 3-1

No.	Topic
\1\	Siemens Industry Online Support https://support.industry.siemens.com
\2\	Link to this entry page of this application example https://support.industry.siemens.com/cs/ww/en/view/Entry_ID
\3\	

3.4 Change documentation

Table 3-2

Version	Date	Modifications
V1.0	12/2019	First version of the document
V1.1	06/2020	Added support for Windows 10
V1.2	06/2020	Update to new versions