

USER MANUAL

# **FOXMAN-UN Client for Windows<sup>®</sup>**

## **Installation and Operation**

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# 1 Introduction

## 1.1 General

FOXMAN-UN client for Windows® consists of the “NEM Desktop” and all Application, Fault Management, Network, and System related UIs (UI=User Interface) that are also provided in the NEM Desktop of a Linux machine, as well as the help system. The FOXMAN-UN core with the database must be installed on a LINUX workstation. For deployment examples refer to section [2 Deployment](#) (on page 6).

The GUI can be connected to any FOXMAN-UN core if there is an IP network providing the connectivity, and if the FOXMAN-UN client version matches the version of the FOXMAN-UN core. As the UIs are running locally on the PC, no resources of the core machine are required. Contrary to using an X-emulation program, only the required data has to be exchanged between the GUI and the core. This speeds up the operation of the UIs and also reduces the load of the core machine.

The UIs allow performing all administration tasks associated with the managed network. They have functionalities identical to those of the UIs in the FOXMAN-UN core machine. System administration though (NEM Administration Tool, command line (CLI) from a terminal) is not possible via FOXMAN-UN client for Windows®.

The following paragraphs show the architecture of FOXMAN-UN and give a short description of each major block.

## 1.2 FOXMAN-UN architecture

### 1.2.1 General

The key to the deployment of FOXMAN-UN is its architecture, which is designed with distributed management in mind. It is based on a modern hardware platform and object oriented technology.

FOXMAN-UN architecture consists on the following components:

- NEM Core including database,
- Agents,
- Main UIs (NEM Desktop, NEM Configurator, and NEM Network Browser) and Applications (like Ethernet Networking Package, Networking Package, Service Supervision, Section Management),
- Northbound interfaces (e.g. SNMP),
- Help.

The following installations are possible:

- Core and UI (Client) on one physical or virtual Linux machine (it is not recommended to use the GUI on the server);
- Core on Linux, UI (Client) on separate Linux machine;
- Core on Linux, UI (Client) on Windows® machine;
- Core on Linux, UIs (Clients) on Windows® and Linux machines.

For management of legacy nodes of type FOX51x the Windows® UI (Client) is required since it includes the FOX51x local craft terminal (UCST add-on).

### 1.2.2 NEM core

FOXMAN-UN is built around a database. This database stores all the relevant information concerning configuration and alarms at the element level. The core component contains the soft-

ware necessary for managing this information as well as for handling the communication with the other processes.

### 1.2.3 Agent

The agent handles the communications with the network elements.

In a multi-tasking operating system like Linux, several agent processes can be running depending on the number of sub-networks connected to the workstation.

The agent can

- upload and download configurations from and to the NEs,
- poll NEs for alarms,
- retrieve and set status information.

### 1.2.4 Main UIs

#### 1.2.4.1 NEM Desktop

The NEM Desktop is the first GUI when starting FOXMAN-UN, and the central GUI for accessing all NEM applications and features.

#### 1.2.4.2 NEM Configurator

The Configurator allows setting up all the details of the management network and defining the security aspects. In addition it provides access to the NE configuration management and limited access to the fault management.

#### 1.2.4.3 NEM Network Browser

The Network Browser provides the operator with a graphical view of the network in the form of maps to supervise the network and carry out the day-to-day management of the network elements.

### 1.2.5 Northbound interfaces

FOXMAN-UN offers several northbound interfaces enabling the integration into the following HLM systems:

- SNMP for fault management (Micromuse Netcool certified).
- XML or CSV (file based) for inventory management.
- Command line interface for inventory data retrieval.

A terminal in the OSS is connected to a specific UNIX socket in the FOXMAN-UN core. A special set of commands for the retrieval of inventory data is available.

- Command line interface for POTS line test in FOX51x NEs.

A terminal in the OSS is connected to a specific UNIX socket in the FOXMAN-UN core. A special set of commands for executing line tests and retrieving results is available.

### 1.2.6 Help

Part of the application is a context based on-line help tool which provides the necessary information associated with every dialog.

The help viewer offers a table of contents that is grouped logically. It allows navigating through all the help pages. Additionally the help pages themselves contain links to related pages. There is also a search function incorporated.

The help viewer can be started as a separate application any time, either from the menu or via command line.

## 2 Deployment

### 2.1 General

FOXMAN-UN client for Windows® can be used to operate the UIs locally on a PC instead of using an X-emulation software (such as NoMachine, VNC or X2Go Client) or instead of working directly with the UI on the core machine. Not only does this speed up the operation of the UIs, it also reduces the processor load of the core machine(s).

For some system administration tasks a remote terminal session or physical access to the core machine is however required.

### 2.2 Basic configuration

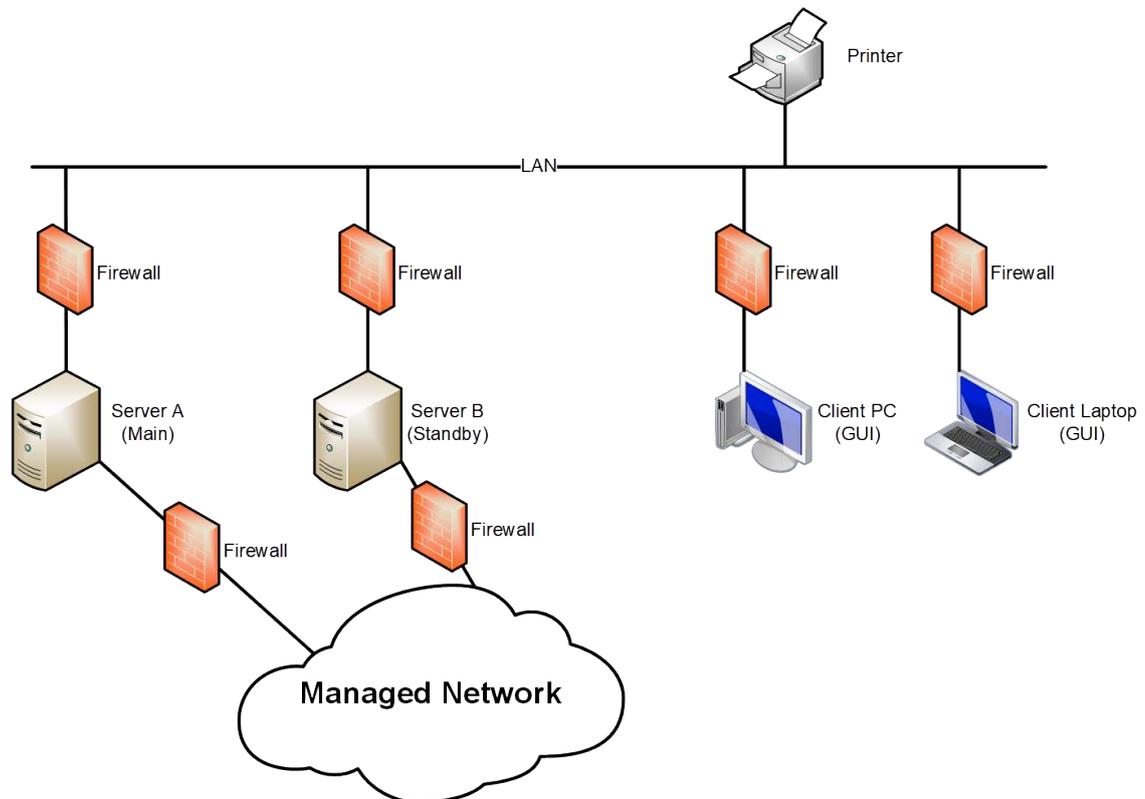


Figure 1: FOXMAN-UN Deployment: Basic Configuration

The above example shows a configuration that has a single server (Server A) running the FOXMAN-UN core with the database. A second server (Server B) is used as standby core machine. One or several Windows® PCs running the FOXMAN-UN client can be connected to the LAN and provide the GUI (Graphical User Interface) functions. The GUI can be also operated on the FOXMAN-UN core machine, but this is not recommended.

Additional Windows® PCs can be added if more UIs are required. The FOXMAN-UN Administrator can define access rights to each operator to allow access only to their allocated part of the network.

### 2.3 Regionally organized O&M with network partitioning

When managing a network that covers a large geographic area, it is often advisable to partition the managed network into sub-networks. These can then be managed by regional offices or specific operators.

Each region can have its own FOXMAN-UN infrastructure with agents and UIs, but sharing a central database. For access to the core and the database the different regions are connected via a WAN.

The example below shows an operation & management organization that is regionally distributed. The core is running on Server A (Main), and as redundant server on Server B (Standby).

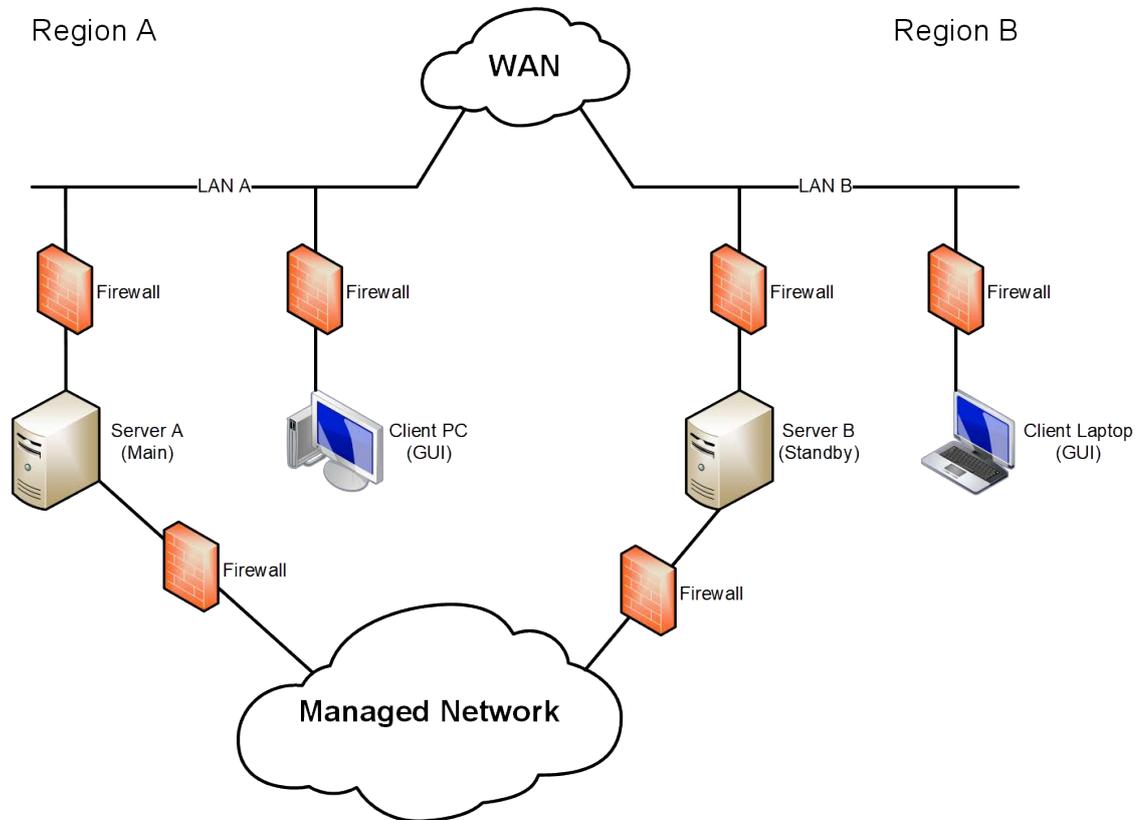


Figure 2: Regionally organized O&M

The Windows<sup>®</sup> PCs in both regions provide the UI functions (GUI). UIs can also connect to Server A (FOXMAN-UN core machine) and to Server B (core machine with e.g. additional agents) if the two servers (A and B) are not used in a Main/Standby setup.

Additional PCs can be used to provide more UIs. The FOXMAN-UN Administrator can define access rights so that each operator has access only to his allocated part of the network. This of course is independent of the location of the PC (LAN A or LAN B).

## 3 Installation



**Please note:**

The release (including service pack) of FOXMAN-UN client for Windows® must be identical to the one of the FOXMAN-UN core it is used to connect to.



**Please note:**

Screenshots shown in this section may indicate a different version of the FOXMAN-UN. They are however valid for the current system release.



**Please note:**

The FOXMAN-UN client for Windows® is not working when the user's home path includes empty spaces.

- The installation path must not include empty spaces.
- Use paths/filenames without empty spaces; use an underscore character instead of an empty space.

### 3.1 OS requirements

For details on the OS requirements please refer to the relevant FOXMAN-UN Release Note [1KHW002499] under "Hardware & OS Requirements - Windows® Platform".

### 3.2 Hardware requirements

For details on the hardware requirements please refer to the relevant FOXMAN-UN Release Note [1KHW002499] under "Hardware & OS Requirements - Windows® Platform".

## 3.3 Installation

### 3.3.1 Steps to Install FOXMAN-UN client for Windows®

- 1 Set up the TCP/IP connectivity to the workstation running the FOXMAN-UN core (Ethernet port, IP address).
- 2 Install the FOXMAN-UN client for Windows®. The following installer files are needed:
  - Base Installation: FOXMAN-UN\_18.0.0.exe. This installation includes the installation of the FOXCST, i.e. the FOXMAN-UN client for Windows® installer will also install the FOXCST add-on. Refer to [3.3.2 "Base Installation"](#).
- 3 As an option, if required, install the UCST Add-on to the FOXMAN-UN client:
  - UCST Add-on to FOXMAN-UN client: FOXMAN-UN\_18.0.0\_UCST.exe (optional - only required for networks that actually include FOX51x network elements). Refer to [3.3.3 "UCST Add-on Installation"](#).



**Please note:**

The FOXMAN-UN client for Windows® installation is storing the user specific settings under the <user\_home>/AppData folder. To avoid misbehaviors it is recommended to first remove any older release of the FOXMAN-UN client for Windows® before installing the new one. For installation of Service Pack or Patch releases, removal of the previously installed main release is not required.



**Please note:**

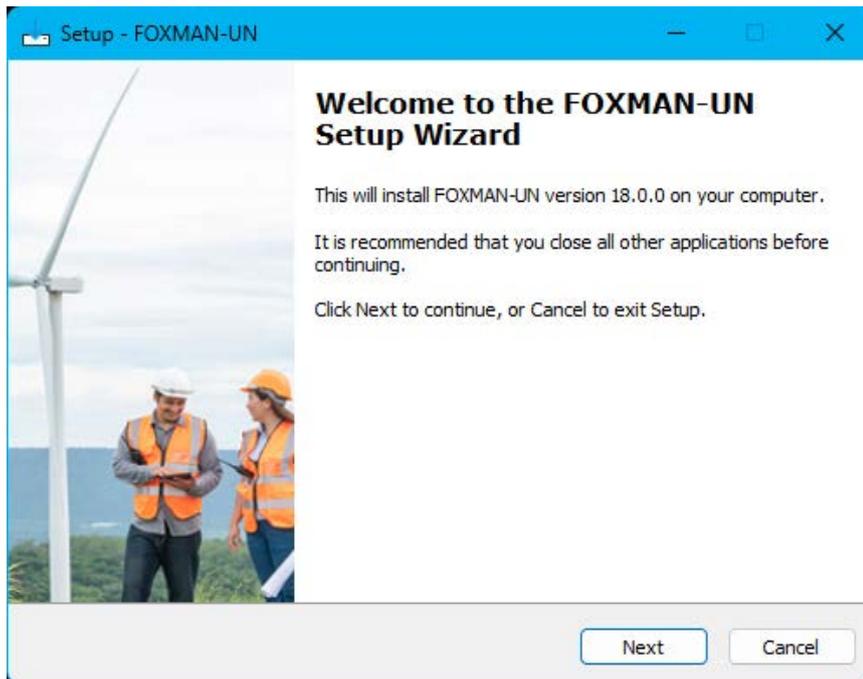
You no longer need a license key to install the UCST Add-on.

**Please note:**

- Only users with administrator rights are allowed to execute the installation. However, the installed program may be used by other users without administrator rights.
- We recommend closing all active applications before starting the installation.
- The release indications shown in the screenshots below may not exactly represent the currently released version.

### 3.3.2 Base Installation

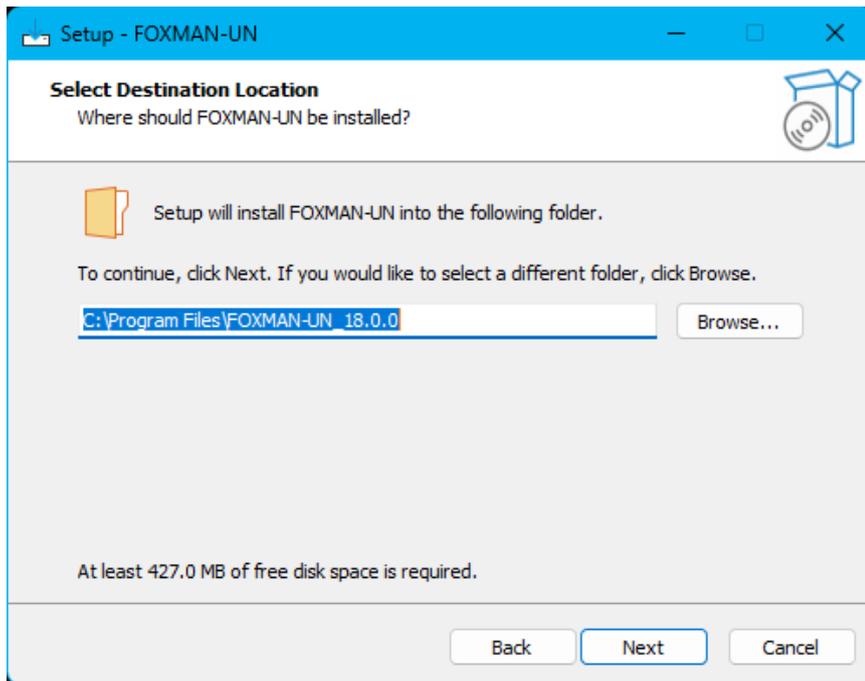
Double-click the installer for FOXMAN-UN client for Windows®: “FOXMAN-UN\_18.0.0.exe”. It automatically starts the Setup Wizard.

**Please note:**

Depending on the security settings of the PC and the location of the source (network drive, Hitachi Energy Publisher), a security warning may be displayed prior to this dialog. To continue, allow the installation program to run.

You need to accept the license agreement.

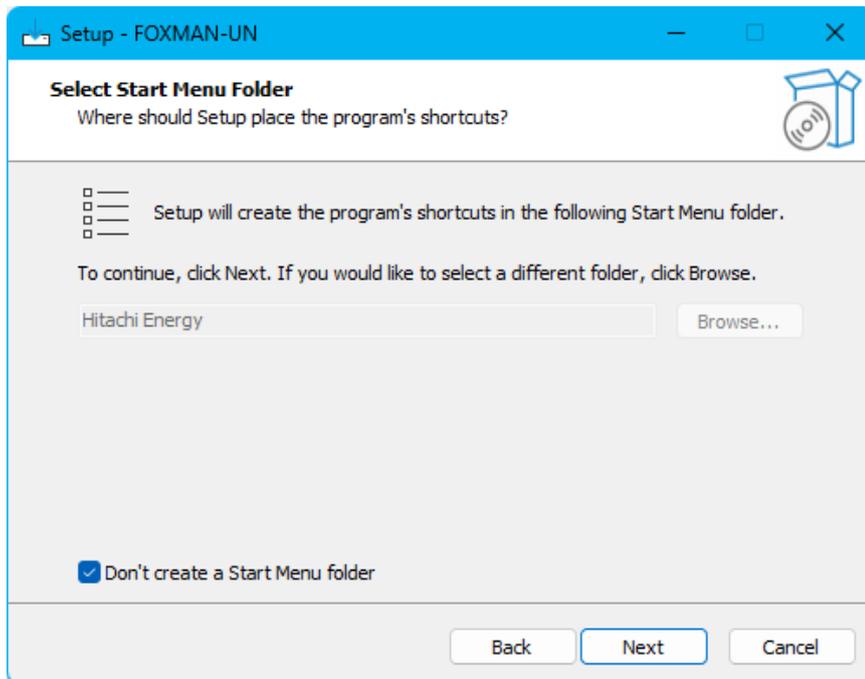
After the license agreement dialog the destination directory and the name of the program folder are presented.



The default destination for the installation of FOXMAN-UN is:

C:\Program Files\FOXMAN-UN\_18.0.0

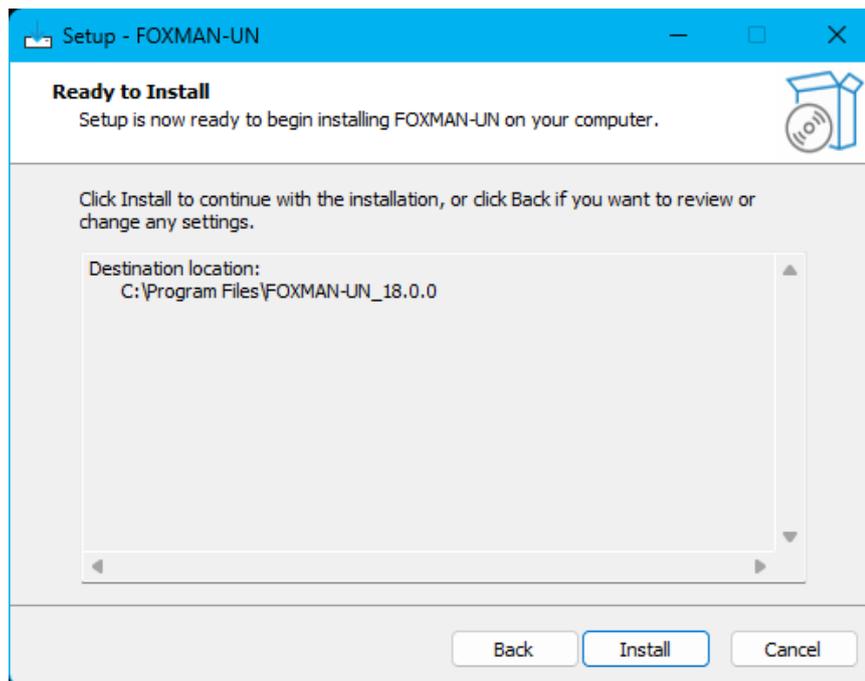
If required, modify the destination (not recommended) and continue to the definition of the start menu folder:



By default, no start menu folder is chosen. If you disable “Don't create a Start Menu folder”, you can define or modify the start menu folder.

After this you are prompted with the option to create a desktop shortcut (no image provided here).

Click “Next”, which leads to a confirmation dialog showing again both destination location and start menu folder:



Confirming with “Install” starts the copying of the files and at the end will register the application. At the end of the FOXMAN-UN GUI installation the installer will automatically continue with the installation of the FOXCST, which is per default a part of the FOXMAN-UN Client.

You may now continue with NEM login (see [Steps to commission FOXMAN-UN client for Windows®](#)) or conclude the installation without starting NEM login.

### 3.3.3 UCST Add-on Installation



**Please note:**

Whether you need the UCST Add-on or not depends on the types of nodes you need to manage in your network. If you have nodes from the FOX51x product family in your network, and you want to configure parameters for the FOX51x nodes you need to install this Add-on.

If you are not operating any FOX51x nodes you don't need this Add-on.

The UCST Add-on for the FOXMAN-UN Client is installed with a separate Add-on installer. It can only be installed after the FOXMAN-UN Client installation.



**Please note:**

UCST is provided in two versions:

- a UCST standalone application for Windows®, and
- a UCST Add-on for the FOXMAN-UN Client on Windows®.

If you require both versions, you need to install them separately.

→ For the installation of the UCST standalone for Windows® refer to the FOX51x documentation.

To start with the UCST Add-on installation, run the Add-on installer:

- FOXMAN-UN\_18.0.0\_UCST.exe



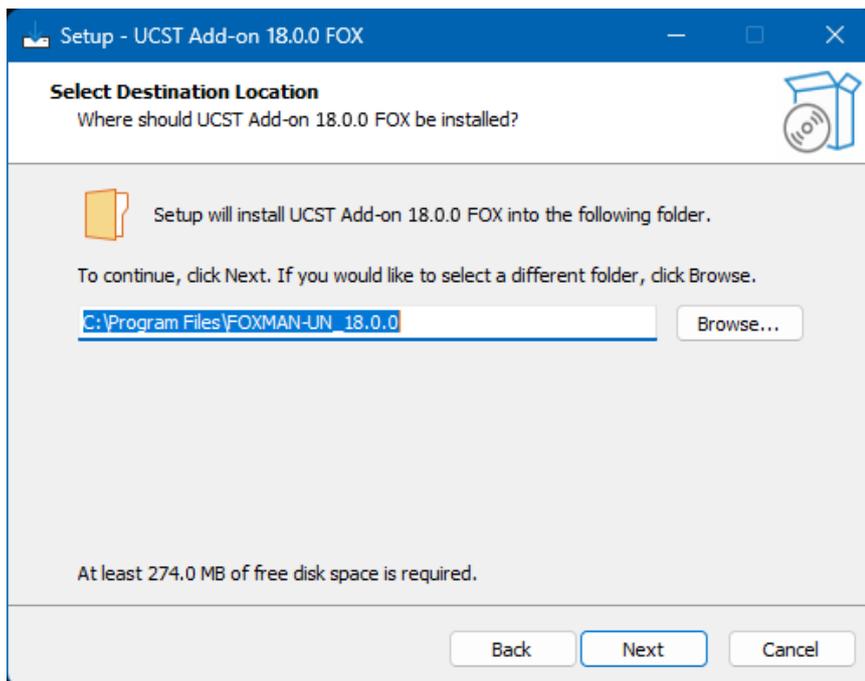
**Please note:**

The UCST Add-on installer installs the UCST version 18.0.0. The UCST add-on to the FOXMAN-UN Client on Windows® version 18.0.0 does no longer need a license key.

This will start the UCST Add-on Setup Wizard.



Click "Next" to verify the installation folder:



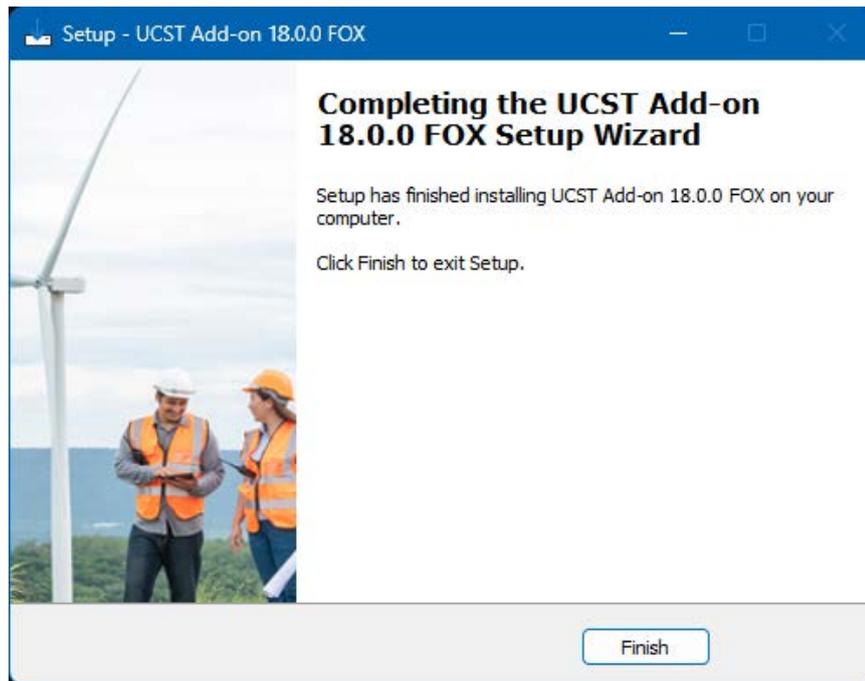
Click "Next" to view a confirmation of the destination location (installation folder).



**Please note:**

This must be the same folder that was used for installing the FOXMAN-UN\_18.0.0, the default being C:\Program Files\FOXMAN-UN\_18.0.0.

Click "Install" to start with the installation. This will install the UCST Add-on, showing the installation progress with a green bar. Once finished, the completion of the installation is to be confirmed by clicking on the "Finish" button:



### 3.3.4 Created Shortcuts in Start Menu

When installation of the FOXMAN-UN Client is completed you have the following shortcut in the Windows® start menu:

- FOXMAN-UN 18.0.0

The entry appears with its assigned icon:



# 4 Commissioning

## 4.1 IP connectivity to the FOXMAN-UN core

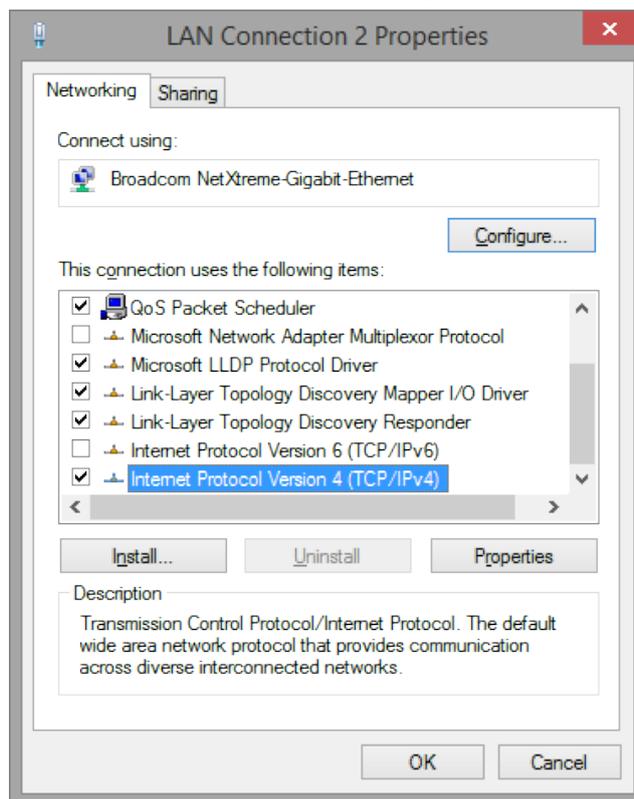
- We strongly recommend to enable the Windows® Firewall (Start – Control Panel – Windows Firewall).



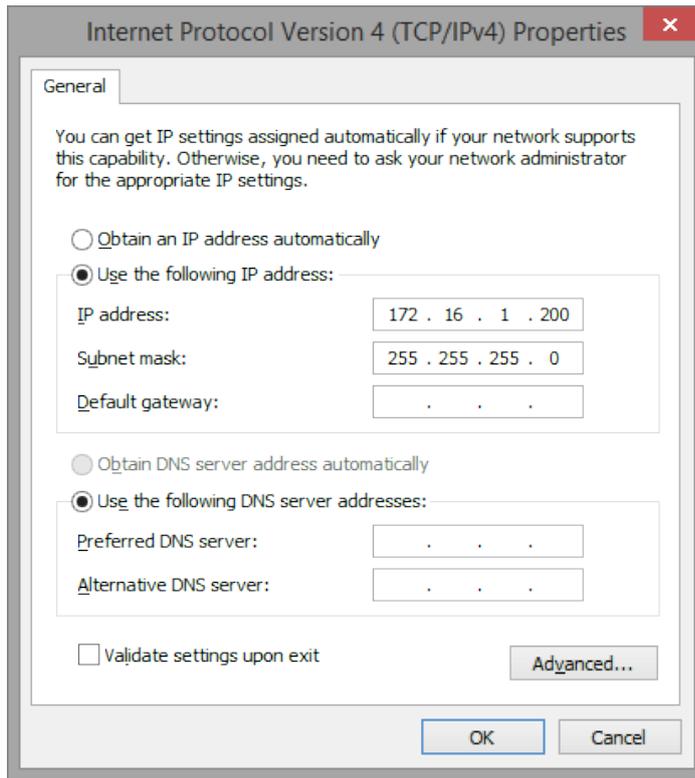
**Please note:**

If you use the firewall, please make sure to configure appropriate firewall rules to enable communication between the core and the client. Depending on the firewall used, you may also confirm to allow the FOXMAN-UN Client application connecting through the firewall upon its first use. More details on required ports are given in the application note “1KHW029012 FOXMAN-UN in Firewalled Environment”.

- Establish a physical Ethernet connection either to the FOXMAN-UN core machine or to the network leading to it.
- Set up the IP address of the local Ethernet interface used to connect to the FOXMAN-UN core machine:
  - From the “Start” menu select “Settings - Network Connections” and the relevant “Local Area Connection”.
  - Under the tab “General” select “Properties” which returns the following dialog:



- Select "Internet Protocol Version 4 (TCP/IPv4)" and start "Properties". This returns the following dialog:



- Activate the frame "Use the following IP address" and enter IP address, subnet mask and default gateway if required.



**Risk of operating trouble!**

Please remember that IP addresses must be unique. Therefore, make sure your managing PC has a different IP address from all other network devices. In case of doubt, contact your network administrator when configuring IP addresses.

- If applicable, make sure a route is established through the network to the FOXMAN-UN core machine as well as a route back from there to the PC.
- If no name server is available to perform address resolution, an entry must be made in the hosts file giving the IP address and the hostname of the FOXMAN-UN core machine. Please notice the last line of the following sample file contents:

C:\WINDOWS\system32\drivers\etc\hosts:

```
# Copyright (c) 1993-2009 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows®.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
```

```

# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
# 102.54.94.97 rhino.acme.com # source server
# 38.25.63.10 x.acme.com # x client host

# localhost name resolution is handled within DNS itself.
# 127.0.0.1 localhost
# ::1 localhost

# the following is the NEM core machine entry.
172.31.41.200 nemsrv

```

## 4.2 Steps to commission FOXMAN-UN client for Windows®



**Please note:**

When operating a firewall between your Windows® machine and your FOXMAN-UN server, make sure to open the appropriate ports in the firewall configuration. Details can be found in the application note “1KHW029012 FOXMAN-UN in Firewalled Environment” that is part of the FOXMAN-UN documentation.



**Please note:**

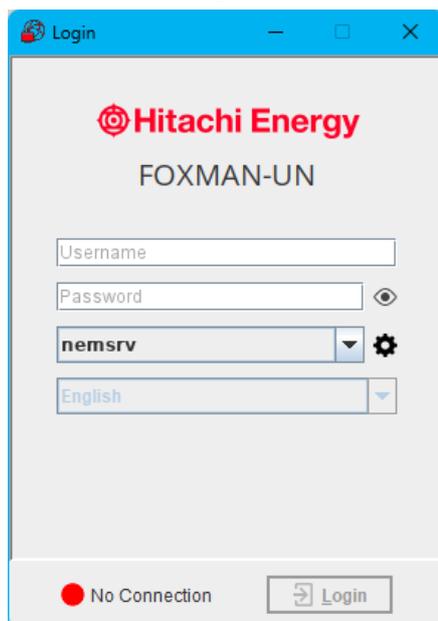
When connecting to the NEM core for the first time, the NEM Help will be downloaded from the server if installed there.

---

### To set up FOXMAN-UN client for Windows®,

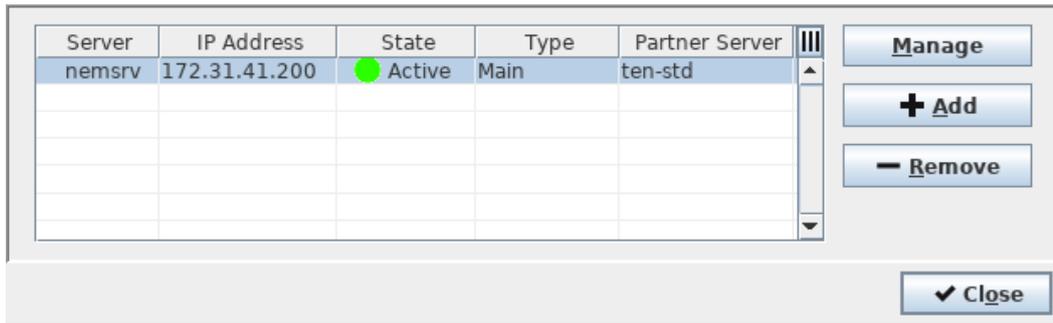
Proceed as follows:

- 1 Start the NEM Login. This presents the NEM Login dialog:



You will need a connection to the FOXMAN-UN core machine. The FOXMAN-UN Windows® client won't be usable unless you have a running connection to the core machine.

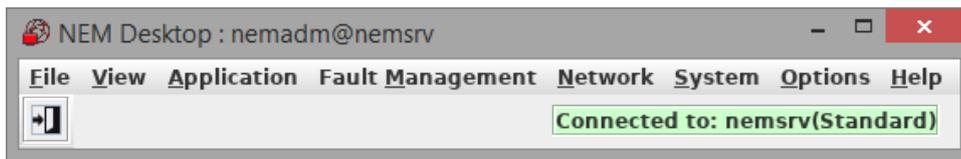
- Use the “Settings” button  to open the “Host Manager” dialog.



- Select the “+ Add” button to open the “Edit Connection” dialog and enter the name and the IP address of the workstation running the FOXMAN-UN core.



- Click “OK” to close the “Edit Connection” dialog.
- Exit from the Host Manager. You get back to the NEM Login.
- Enter the “User Name” and “Password” and click “OK” to log in to the FOXMAN-UN. This will start the NEM Desktop.



In case you don’t know user name and/or password contact the administrator of the FOXMAN-UN core machine.

- Start the NEM Configurator
- If required, change the size of the NEM Configurator window and select the columns of the details panel as required. Refer to the Help system under “NEM Configurator - Main Window” for details.

**End of instruction**

---

These settings as well as all other settings defining size of windows and their location on the screen are saved in a persistence files on a per user basis.



**Please note:**

The “user” in this case is the user logged in at the PC, not the FOXMAN-UN user.

If you are planning to perform large inventory requests from your network by using the NEM Desktop function “Inventory Request...” from the “Network” menu, you might need to make a modification to the “nem.conf” file of the FOXMAN-UN core installation as follows: Uncomment the following key-value line, and make sure the value is set to “large”:

```
client_memory_conf large
```

You are now ready to use the NEM Configurator or the NEM Network Browser and perform management functions according to the privileges and access rights of the FOXMAN-UN user you used to log in to FOXMAN-UN.

# 5 Operation

## 5.1 General

All functions of the NEM Desktop, the NEM Configurator and the NEM Network Browser are identical to those of a LINUX installation. Therefore also the NEM Help System user manual information and the FOXMAN-UN built-in online help are identical.



**Please note:**

It is not possible to open a terminal and perform system administration tasks without remote login to the server machine.

## 5.2 Connection

Once you have started the NEM Login, defined a host via the host manager, and logged in with appropriate user name and password (see the steps in [4.2 "Steps to commission FOXMAN-UN client for Windows®"](#) above), you are connected to the FOXMAN-UN core, and you have the NEM Desktop available for starting applications.

# 6 Annex

## 6.1 Document history

**Table 1: Document History**

Document ID	FOXMAN-UN Release	Rev	Date	Changes since previous version
1KHW002089	R11A	1	2018-04-18	First revision for current system release.
1KHW002089	R11A SP01	B	2018-11-02	Updated for R11A SP01.
1KHW002089	R11A SP01	C	2019-02-14	Updated for R11A SP01.
1KHW002089	R11B	D	2019-09-19	Updated for current release; several editorial changes and improvements.
1KHW002089	R14A	A	2020-07-21	Updated for release R14A.
1KHW002089	R14A	B	2020-08-31	Minor corrections in section 1.2.5 and on last page.
1KHW002089	R14B	A	2021-01-15	Updated for release R14B. Updated copyright statements and Web URLs. Minor editorial corrections.
1KHW002089	R15A	A	2021-06-30	Updated for release R15A. Reworked figures in section 2. Updated installation options, recommended firewall policy, and start menu shortcuts. Added revision history.
1KHW002089	R15B	A	2022-01-11	Updated for release R15B.
1KHW002089	R16A	A	2022-08-03	Updated for release R16A.
1KHW002089	R16B	A	Aug 2023	Updated for release R16B. Updated installer details. Removed license requirement for UCST.
1KHW002089	R17A	A	Sep 2024	Updated for release R17A.
1KHW002089	R18	A	Jun 2025	Updated for release R18.

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