

PDQ Validation and Repair Plug-in for NX

# **CADdoctor<sup>®</sup> *for* NX**

## **CADdoctor for NX**

### ***Installation Guide***

January 2023

Elysium Co. Ltd.

# Index

|                                                                               |    |
|-------------------------------------------------------------------------------|----|
| 1. License Management Software .....                                          | 2  |
| 2. Installation of CADdoctor for NX .....                                     | 3  |
| 2.1. Installation Using the Installer .....                                   | 3  |
| 2.1.1. Installation .....                                                     | 3  |
| 2.1.2. Launch .....                                                           | 12 |
| 2.2. Copy Installation .....                                                  | 13 |
| 2.2.1. Install to the Same Path as Copy Source .....                          | 13 |
| 2.2.2. Install to a Different Path from Copy Source .....                     | 14 |
| 3. Template Function .....                                                    | 16 |
| 3.1. About pax File .....                                                     | 16 |
| 3.2. How to Specify Custom Template of NX (without Teamcenter) .....          | 17 |
| 3.3. How to Specify Custom Template of NX (with Teamcenter) .....             | 18 |
| 3.4. Precautions .....                                                        | 19 |
| 3.5. How to Specify the "Part Revision" of NX (with Teamcenter) .....         | 19 |
| 3.6. How to Specify the "Part Type (Item Type)" of NX (with Teamcenter) ..... | 20 |
| 4. Customize Functions .....                                                  | 21 |
| 4.1. Heal IsolatedCurve .....                                                 | 21 |
| 4.2. Export DB_PART_NAME, DB_PART_NO to ENF .....                             | 21 |

**Important Notice**

These documents are copyrighted and protected by Japanese law. No part of this document may be reproduced or transmitted in any form or by any means without prior consent of Elysium Co., Ltd. Any unauthorized copying of these documents will be a violation of the related software license and copyright laws.

The contents of this documentation include sensitive information. Registered users must protect confidential information against a leak of accident.

The contents of this documentation may include technical inaccuracies or typographical errors and it may be revised without prior notice.

In no event will Elysium Co., Ltd. be liable to anyone for any damages, including any lost profits, lost savings, lost data, incidental, special punitive or consequential damages or professional malpractice arising out of or in connection with this agreement or its breach even if Elysium Co., Ltd. has been advised of or should be aware of the possibility of such damages.

All rights reserved, Copyright © Elysium Co. Ltd.

Distributed by Elysium Co. Ltd.

**Trademarks**

NX is a registered trademark of Siemens Digital Industries Software Inc.

CADdoctor is a registered trademark of Elysium Co. Ltd.

Other brand or product names are trademarks or registered trademarks of their respective companies or organizations.

Elysium Co. Ltd.

Press Tower 10th Floor, 11-1 Asahi-cho, Naka-ku, Hamamatsu

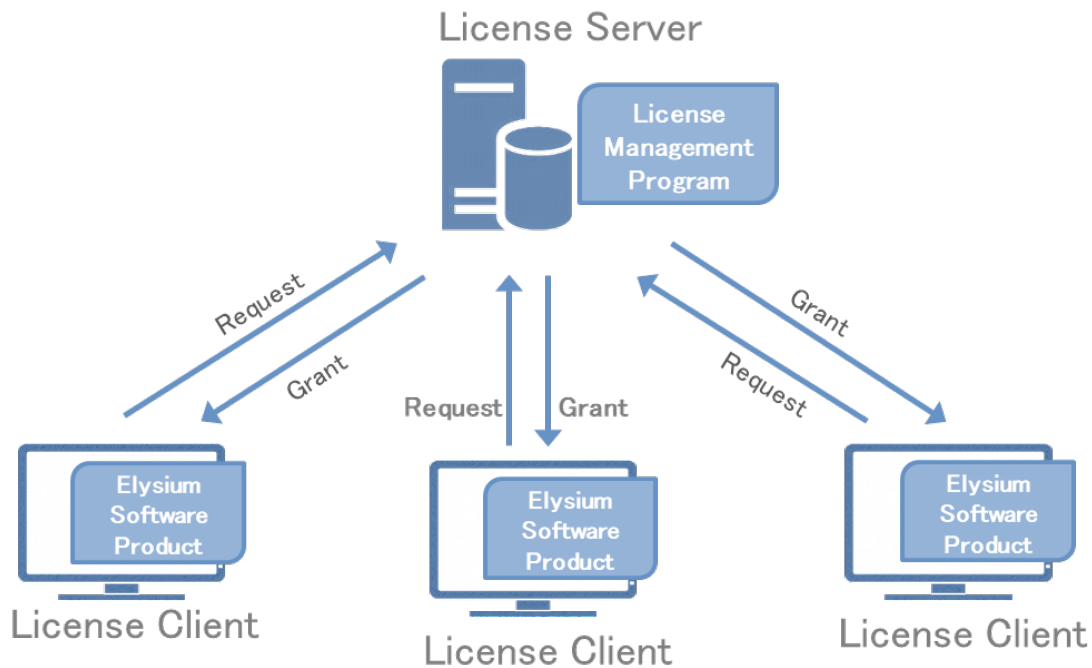
Shizuoka 430-0927 JAPAN

TEL +81 (0) 53 413 1006

FAX +81 (0) 53 413 1018

# 1. License Management Software

The license management software is a Server-Client security software.



The license management software manages the User's License Information (number of users, license expiration date, etc.). The license management software must be properly activated before using Elysium software products. CADdoctor for NX connects with the license server and checks whether the user has a valid license. In order to communicate with the license management software, this product requires the "host name" of the computer on which the license management software is installed (license server) and the "port number" used for communication.

Elysium or your local reseller will provide the password file (\*.elylic) generated based on your computer ID to you.



Please refer to "Sentinel RMS License Manager Setup & Quick Start Guide" for more details.

## 2. Installation of CADdoctor for NX

There are two methods to install CADdoctor for NX:

- Installation using the installer
- Copy installation

### 2.1. Installation Using the Installer

This section explains how to install CADdoctor for NX using the installer.

#### Before Installation

Make sure that NX is installed in the computer where CADdoctor for NX will be installed and that the following variables are set.

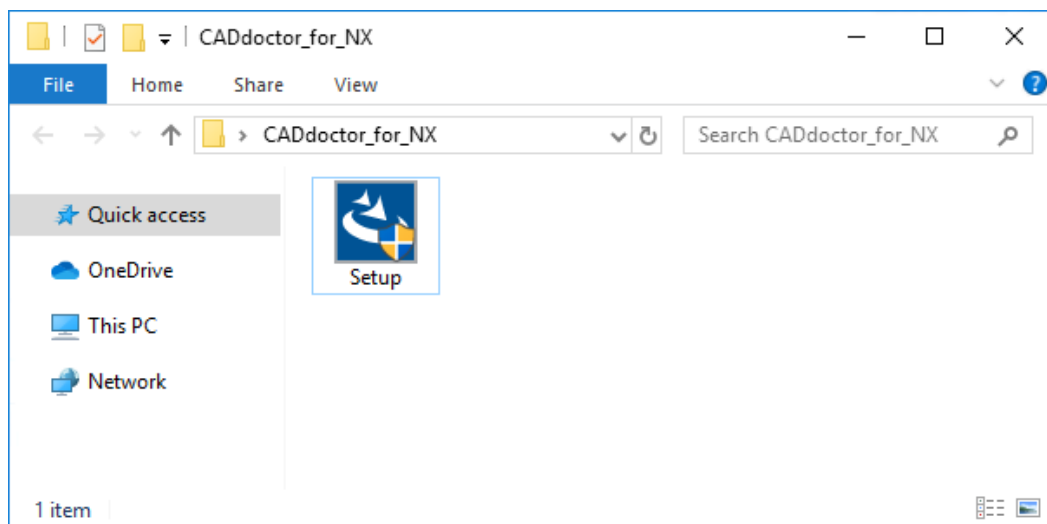
- UGII\_BASE\_DIR
- SPLM\_LICENSE\_SERVER



Please note that the installation of CADdoctor for NX may fail in an environment where multiple versions of NX are installed.

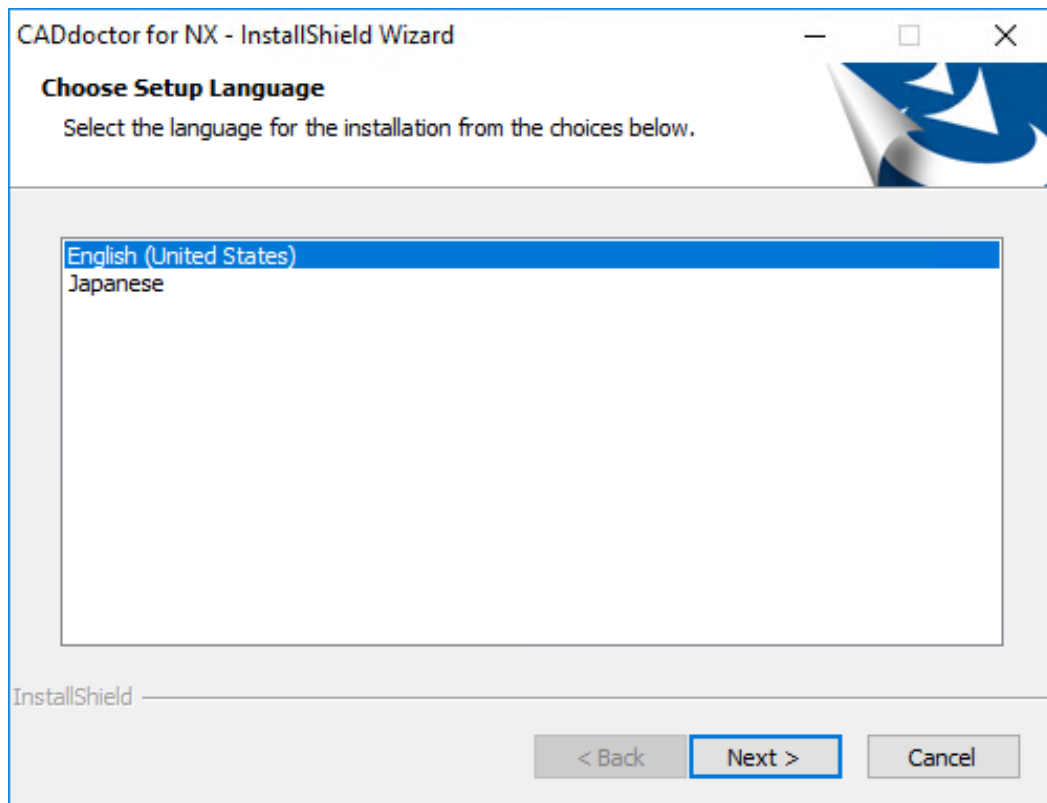
#### 2.1.1. Installation

1. Execute [CADdoctor\_for\_NX\setup.exe] in the installation package of CADdoctor for NX.

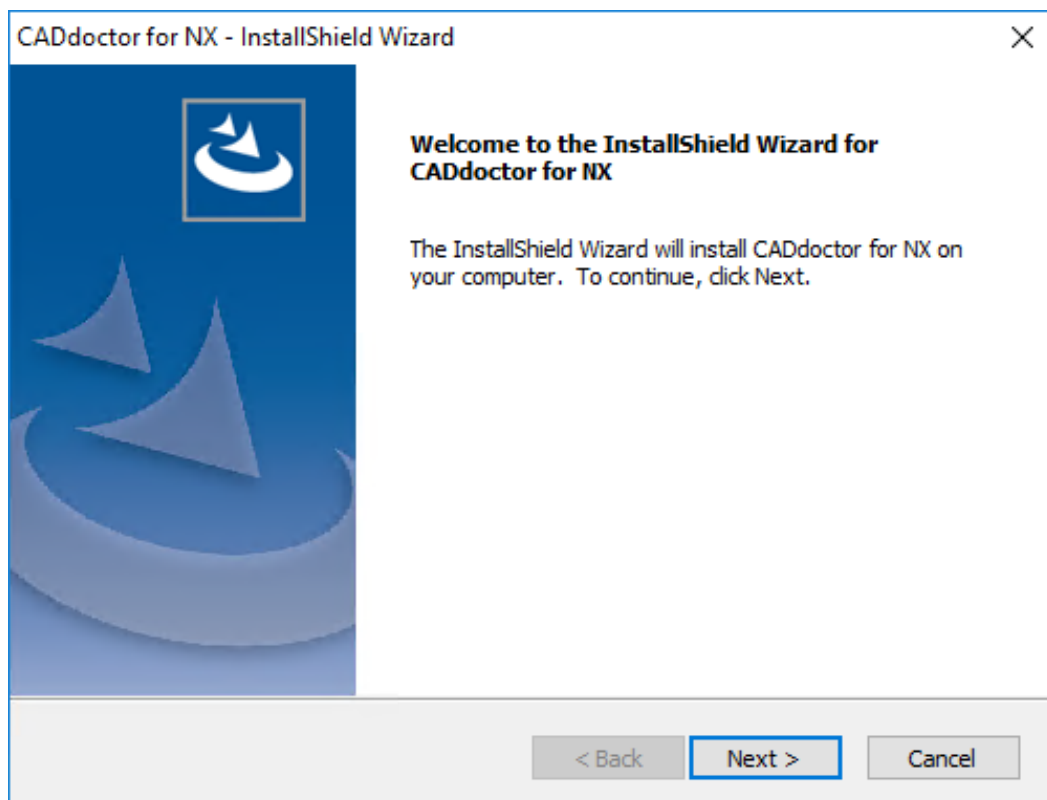


You need Administrator privileges in order to install Elysium products.

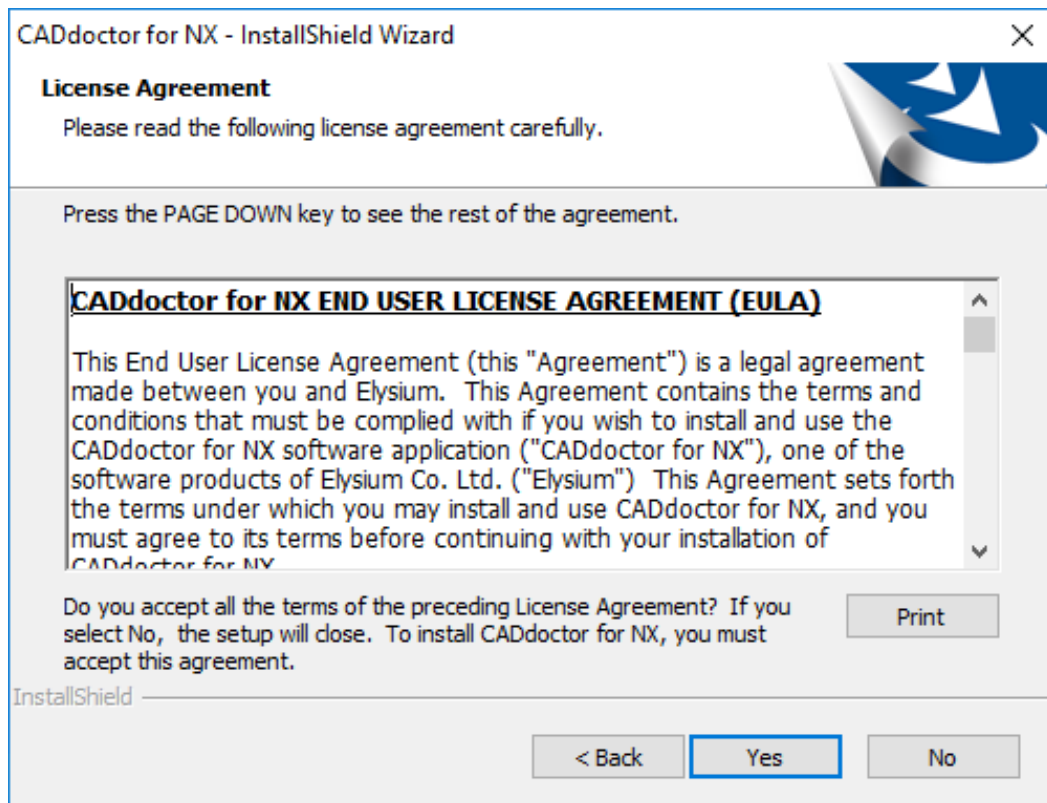
2. Select the language used for installation, and click [Next].



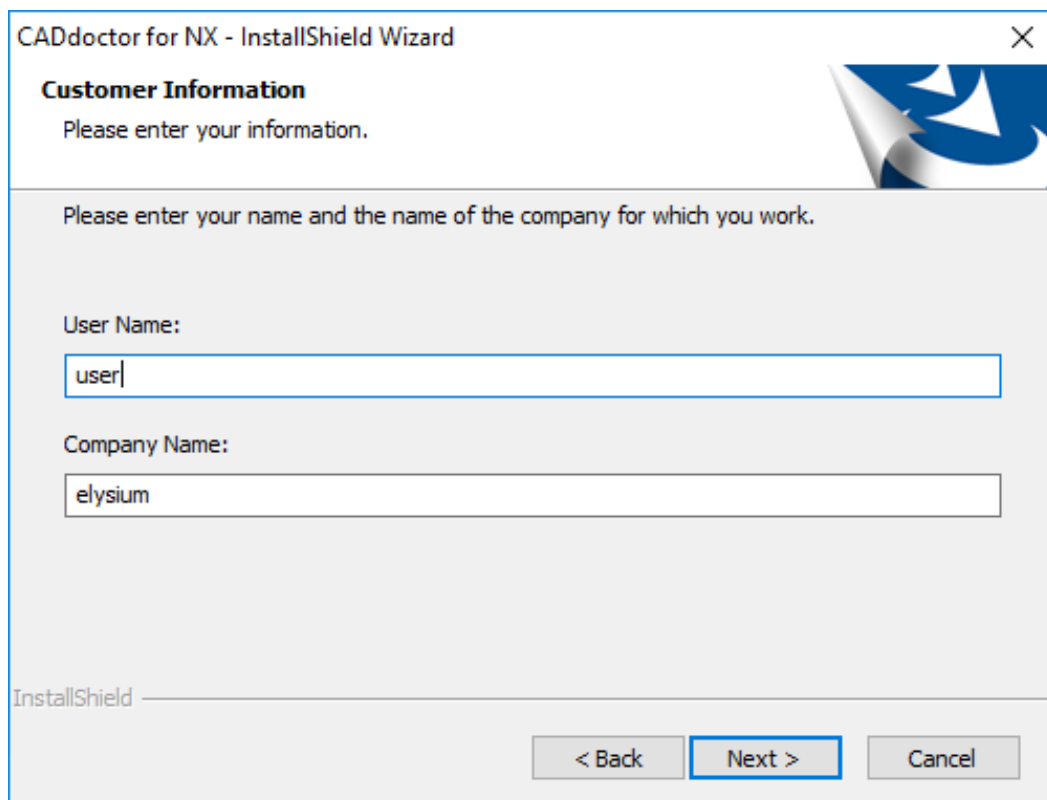
3. CADdoctor for NX Install Wizard will appear. Click [Next].



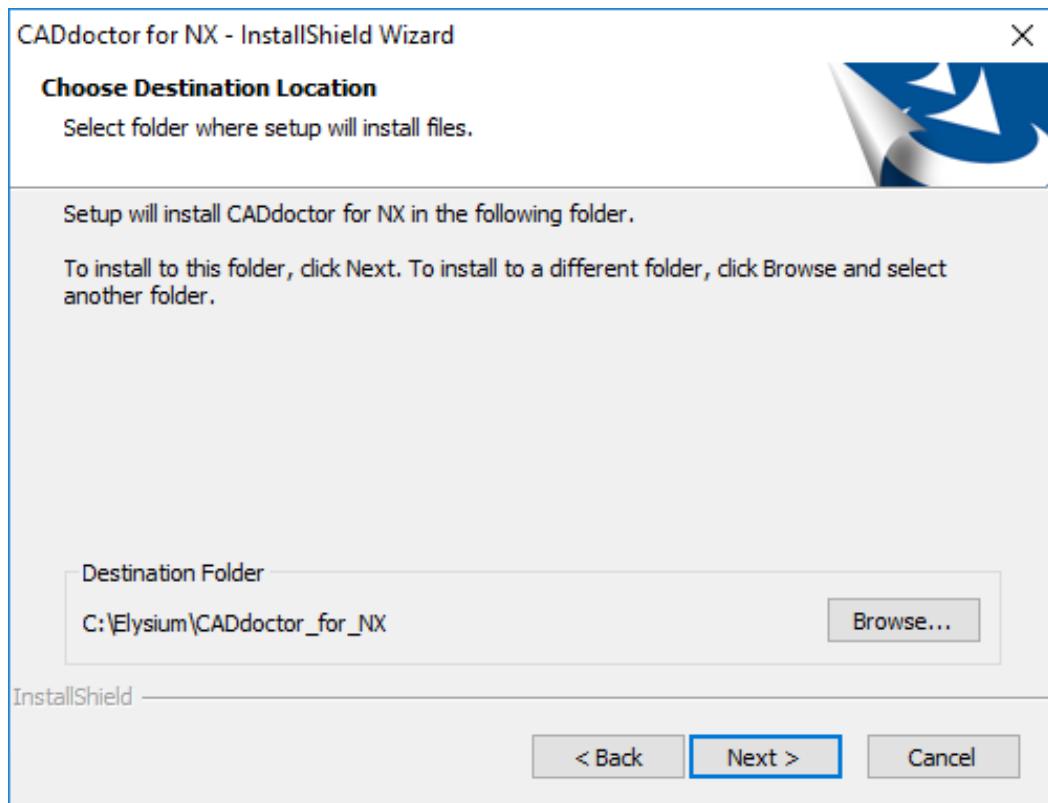
4. "License Agreement" will be displayed. Read through carefully and click [Yes]. If you disagree, you cannot continue the installation.



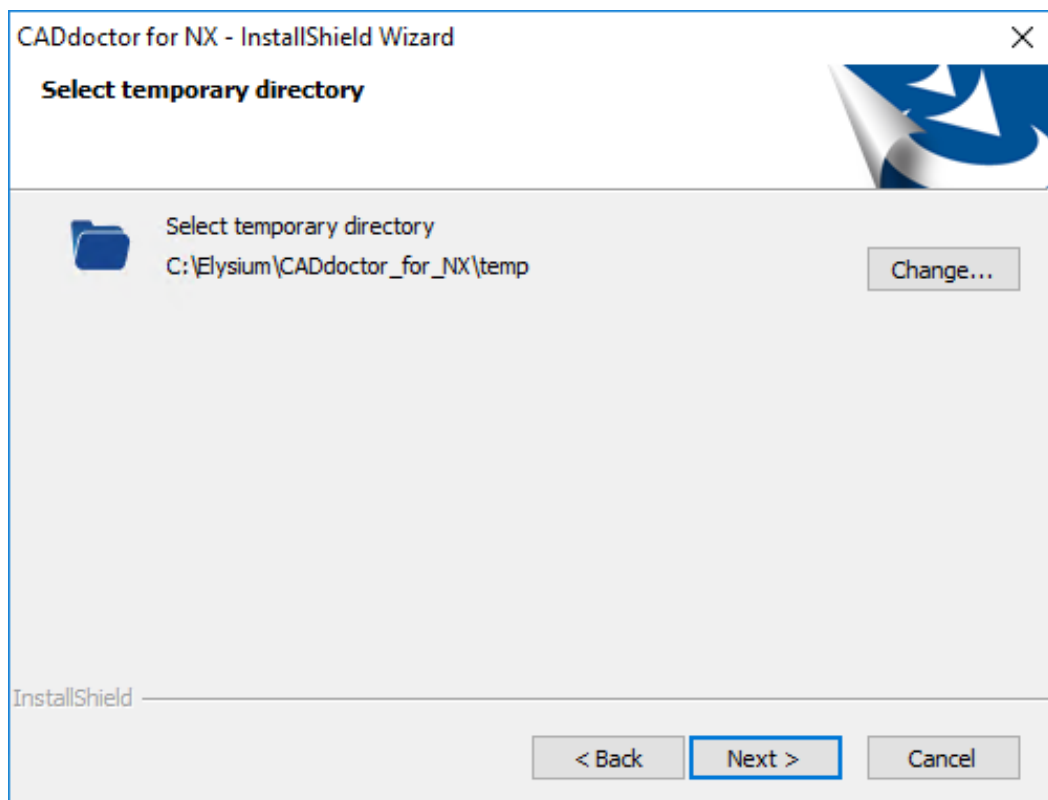
5. Enter the user name and company name, and click [Next].



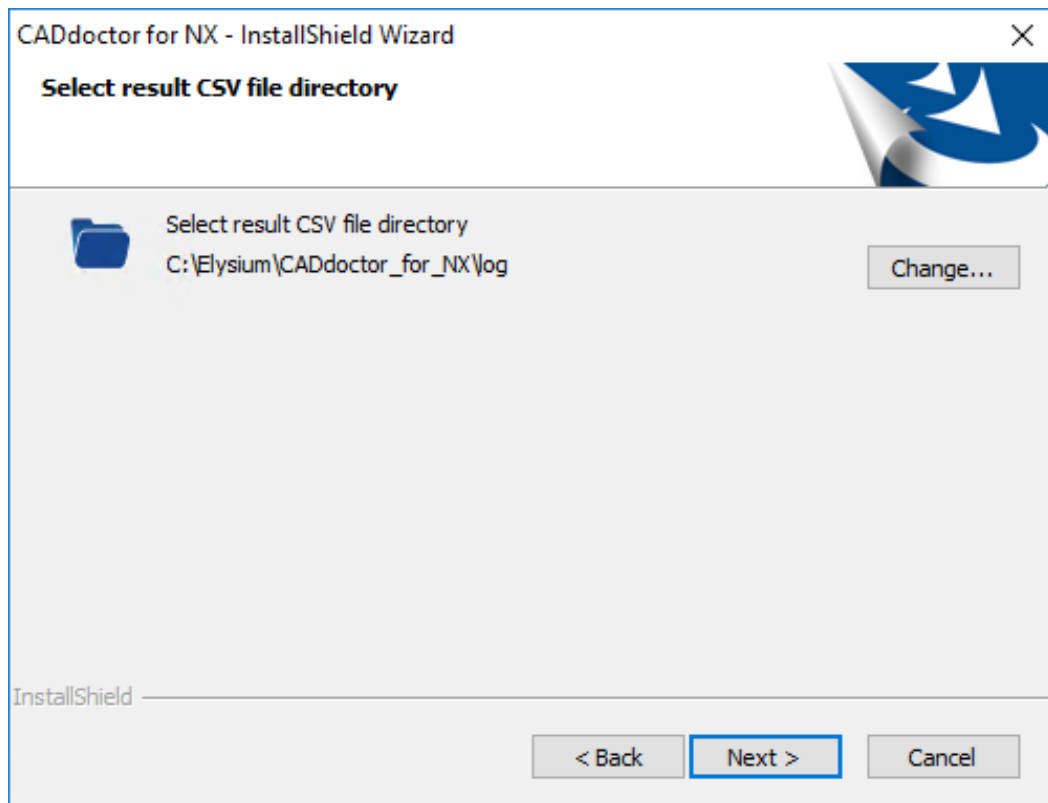
6. Specify the destination folder, and click [Next].



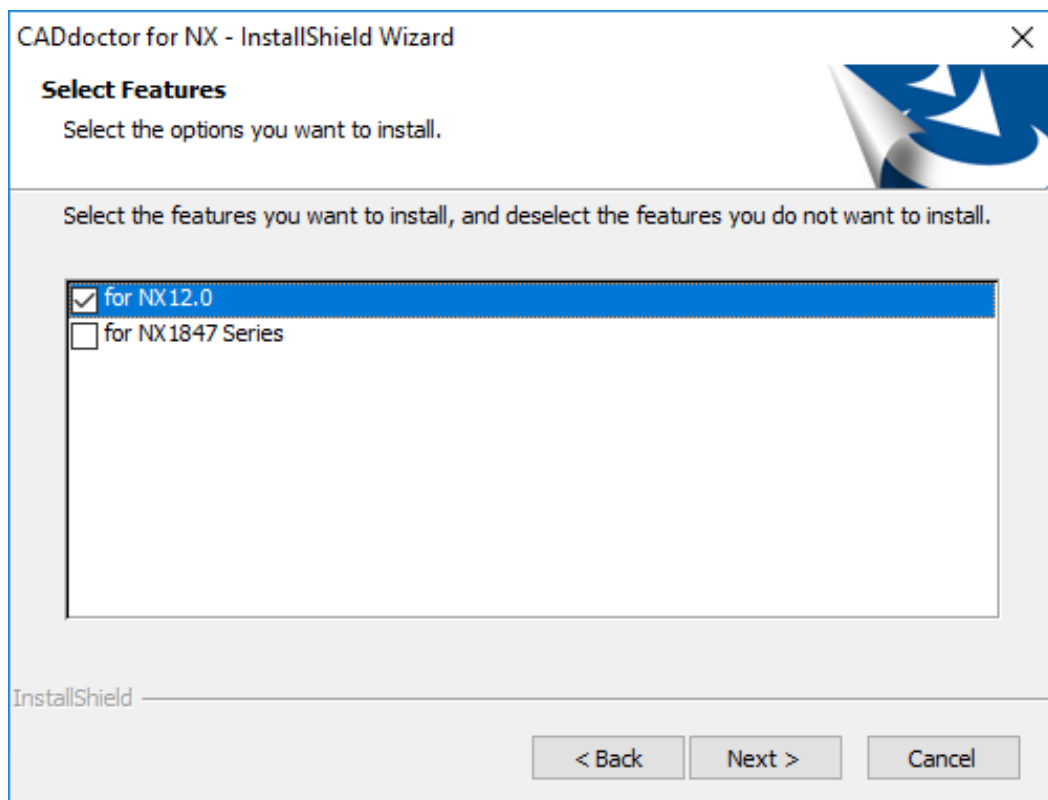
7. Specify the working folder, and click [Next].



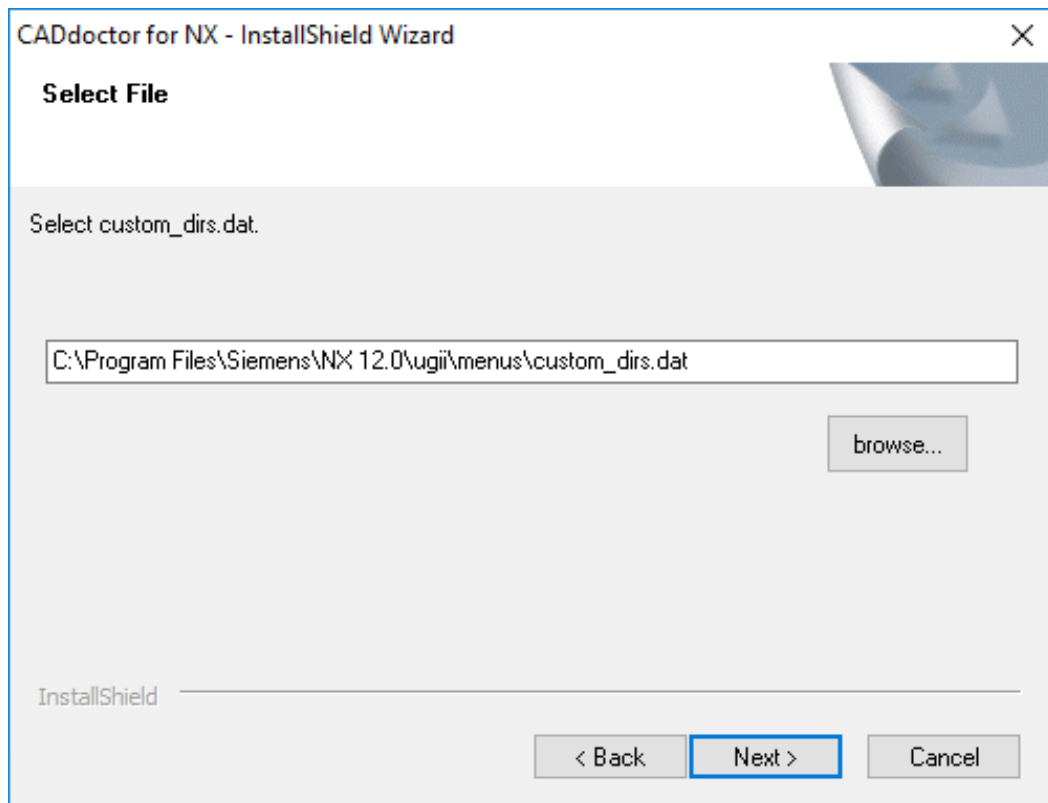
8. Specify the folder where CSV file will be output, and click [Next].



9. Select the components to install, and click [Next].

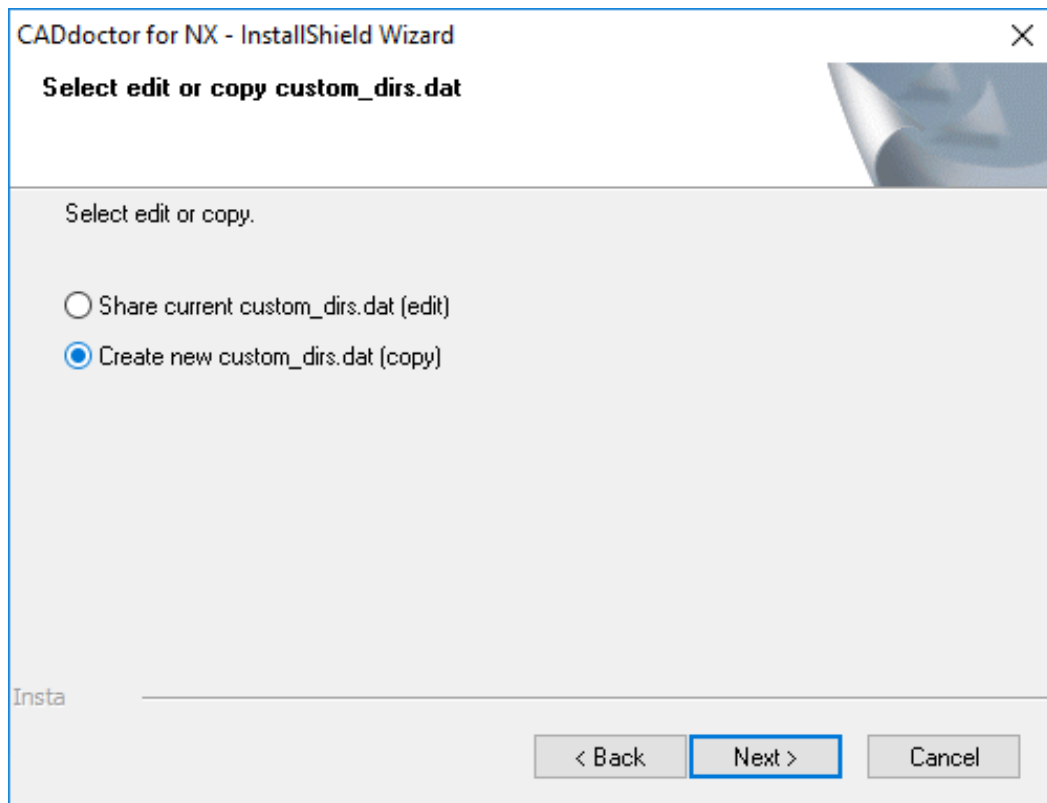


10. Specify the configuration file, and click [Next].



In the environment where NX is installed with default settings, "custom\_dirs.dat" exists in \$(UGII\_ROOT\_DIR)\menus\ and the path to the file is automatically displayed. If you want to use another "custom\_dirs.dat", click [browse...] and specify the file.

11. Select [edit] or [copy], and then click [Next].



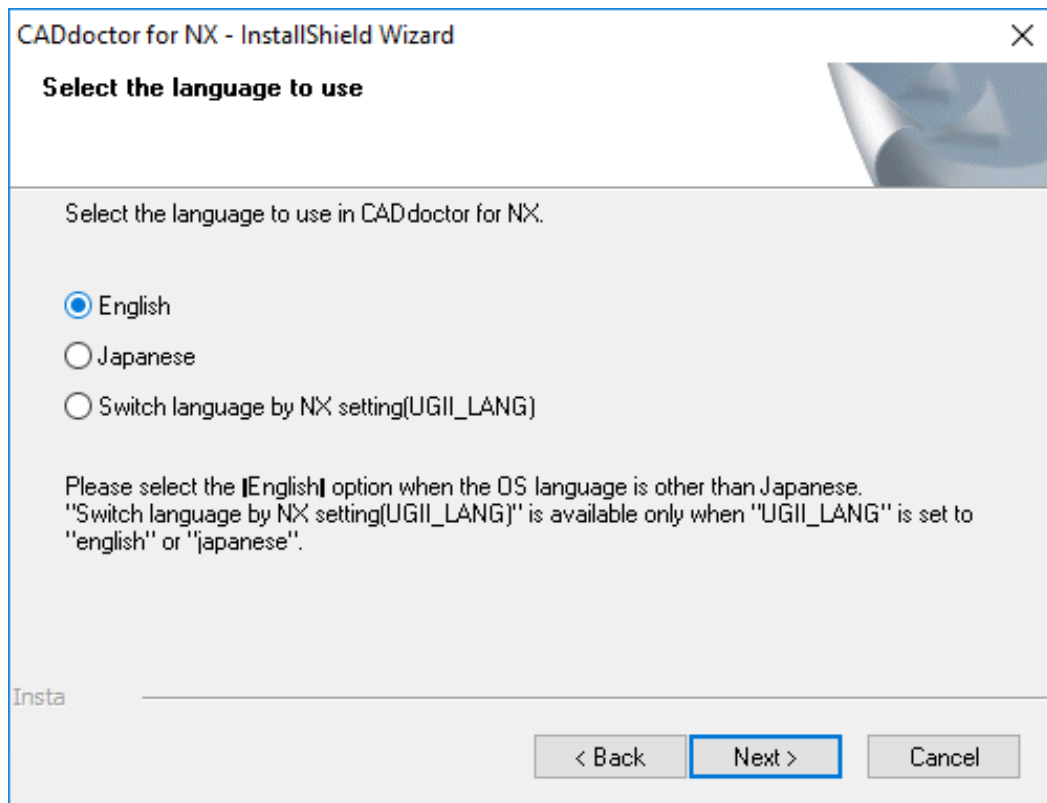
- If [edit] is selected, CADdoctor for NX can be executed even if you launch NX without going through the CADdoctor for NX startup batch.
- If [copy] is selected, the specified configuration file itself will not be modified.  
(Settings of CADdoctor for NX are added to the created copy of the configuration file. Therefore, customization settings of NX will be kept when using CADdoctor for NX.)
- If Teamcenter is used, specify "custom\_dirs.dat" that is referenced when NX is activated from Teamcenter in step 10, and then select [edit].



How to confirm which "custom\_dirs.dat" is used for currently running NX

1. Start NX.
2. Select [Help] > [Log File] from the menu in NX.
3. In the dialog that appears, confirm the path specified in "UGII\_CUSTOM\_DIRECTORY\_FILE".

12. Select the language, and then click [Next].



If "Switch language by NX setting (UGII\_LANG)" is selected, the language used by CADdoctor for NX will switch according to the setting of the environment variable "UGII\_LANG". (If UGII\_LANG is "japanese", it will switch to Japanese. If UGII\_LANG is "english", it will switch to English.)

Select "English" instead of "Switch language by NX setting(UGII\_LANG)" to use CADdoctor for NX in an environment other than Japanese (UGII\_LANG=japanese) or English (UGII\_LANG\_english).

This setting can be changed after the installation by editing the following files.



- \config\custom\_dirs.dat
  - Change <Language Setting> in the line below at the end of the file to one of the following: "japanese", "english", or "\$UGII\_LANG"  
C:\Elysium\CADdoctor\_for\_NX\<Language Setting>
- \dll\language.txt
  - Enter one of the "japanese", "english" or "UGII\_LANG".

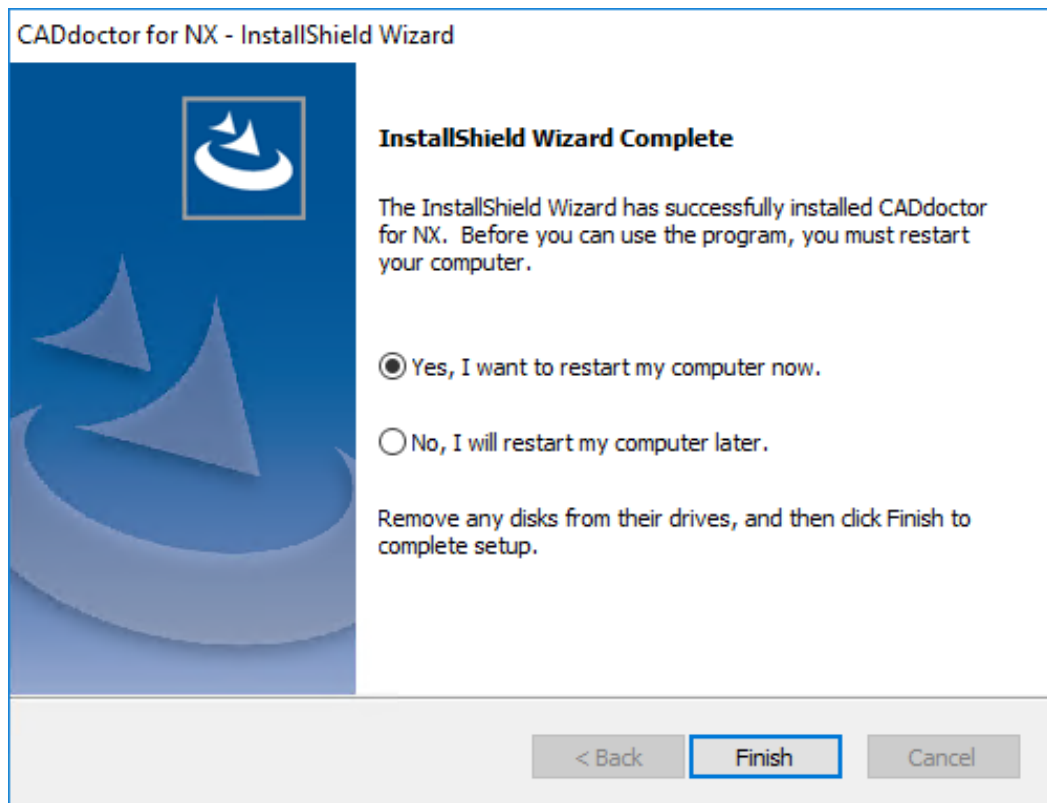
13. Enter the computer name and the port number (Use default: 5093) of license server.

The screenshot shows the 'Select License Server' dialog box. It has a title bar 'CADdoctor for NX - InstallShield Wizard' and a close button. Below the title bar is the section 'Select License Server' with a blue and white graphic. The main area contains the instruction 'Specify Elysium License Server name and port number.' There are two input fields: 'Server' with the text 'license' and 'Port' with the text '5093'. At the bottom, there is a progress bar labeled 'InstallShield' and three buttons: '< Back', 'Next >' (highlighted with a blue border), and 'Cancel'.

14. Specify the program folder, and click [Next] to start installation.

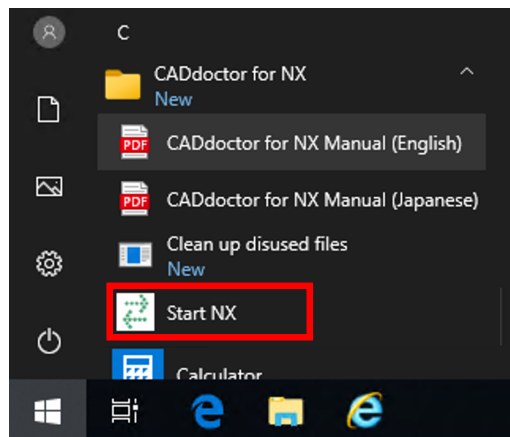
The screenshot shows the 'Select Program Folder' dialog box. It has a title bar 'CADdoctor for NX - InstallShield Wizard' and a close button. Below the title bar is the section 'Select Program Folder' with a blue and white graphic. The main area contains the instruction 'Please select a program folder.' Below this, it says 'Setup will add program icons to the Program Folder listed below. You may type a new folder name, or select one from the existing folders list. Click Next to continue.' There are two input fields: 'Program Folder:' with the text 'CADdoctor for NX' and 'Existing Folders:' with a list box containing the following items: Accessibility, Accessories, Administrative Tools, CATIA, CATIA P3, COLMINA Design Review Translator, Elysium 3DxSUITE, and Elysium 3DxSUITE Editor. At the bottom, there is a progress bar labeled 'InstallShield' and three buttons: '< Back', 'Next >' (highlighted with a blue border), and 'Cancel'.

15. Select "Yes, I want to restart my computer now." and click [Finish]. You must restart your system to have the configuration changes made by this program to take effect.

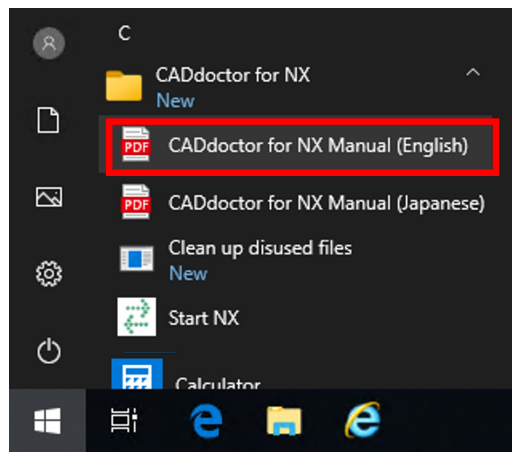


## 2.1.2. Launch

Start CADdoctor for NX from Start menu.



Read the manual to check how to use CADdoctor for NX.



## 2.2. Copy Installation

Follow the steps below to perform a copy installation. The procedure is based on the assumption that you are performing a copy installation on Computer B.

### 2.2.1. Install to the Same Path as Copy Source

1. The source for copy installation will be referred to as "Computer A". With CADdoctor for NX already installed in Computer A, copy all the files in the CADdoctor for NX installation folder from Computer A to the same path on another computer (hereinafter referred to as "Computer B").
  2. Create the environment variable "ELY\_CDRNX\_TEMP\_DIR" and specify a folder that users of CADdoctor for NX can read and write. Please ensure that expected CADdoctor for NX users have edit permission on the specified folder.
    - (Example) ELY\_CDRNX\_TEMP\_DIR=C:\Elysium\CADdoctor\_for\_NX\temp
  3. Specify the path of CADdoctor for NX in the environment file "custom\_dirs.dat".<sup>(\*)</sup> Depending on the language being used, the path to be specified is as follows:
    - To use CADdoctor for NX in English:  
<CADdoctor for NX Installation folder>\english
    - To use CADdoctor for NX in Japanese:  
<CADdoctor for NX Installation folder>\japanese
    - To use CADdoctor for NX in the language specified by the environment variable "UGII\_LANG": <CADdoctor for NX Installation folder>\\$UGII\_LANG
- <sup>(\*)</sup> For "custom\_dirs.dat", you can check the file path from the following environment variables in Computer A:
- If installed with "Share current custom\_dirs.dat [edit]" option:  
System environment variable "UGII\_CUSTOM\_DIRECTORY\_FILE"
  - If installed with "Create new custom\_dirs.dat [copy]" option:  
Environment variable "UGII\_CUSTOM\_DIRECTORY\_FILE" specified in the following file  
<CADdoctor for NX Installation folder (Computer A)>\dll\StartNX.bat

4. To match the installation conditions of Computer A, create the environment variable "UGII\_CUSTOM\_DIRECTORY\_FILE" on Computer B and specify the file path for "custom\_dirs.dat".
  - If installed with "Share current custom\_dirs.dat [edit]" option:  
System environment variable "UGII\_CUSTOM\_DIRECTORY\_FILE"
  - If installed with "Create new custom\_dirs.dat [copy]" option:  
Environment variable "UGII\_CUSTOM\_DIRECTORY\_FILE" specified in the following file  
<CADdoctor for NX Installation folder (Computer A)>\dll\StartNX.bat

### 2.2.2. Install to a Different Path from Copy Source

1. The source for copy installation will be referred to as "Computer A". Copy all the files in the CADdoctor for NX installation folder from Computer A to a different path on another computer (hereinafter referred to as "Computer B").  
Hereinafter, this folder will be referred to as "<CADdoctor for NX Installation folder #2>".
  - (Example) D:\Elysium\CADdoctor\_for\_NX
2. Create the environment variable "ELY\_CDRNX\_TEMP\_DIR" to specify a folder that users of CADdoctor for NX can read and write. Please ensure that expected CADdoctor for NX users have edit permission on the specified folder.
  - (Example) ELY\_CDRNX\_TEMP\_DIR=D:\Elysium\CADdoctor\_for\_NX\temp
3. Specify the path of CADdoctor for NX in the environment file "custom\_dirs.dat".<sup>(\*)</sup>  
Depending on the language being used, the path to be specified is as follows:
  - To use CADdoctor for NX in English:  
<CADdoctor for NX Installation folder #2>\english
  - To use CADdoctor for NX in Japanese:  
<CADdoctor for NX Installation folder #2>\japanese
  - To use CADdoctor for NX in the language specified with an environment variable "UGII\_LANG":  
<CADdoctor for NX Installation folder #2>\\$UGII\_LANG

<sup>(\*)</sup> For "custom\_dirs.dat", you can check the file path from the following environment variables on Computer A:

- If installed with "Share current custom\_dirs.dat (edit)" option:  
System environment variable "UGII\_CUSTOM\_DIRECTORY\_FILE"
  - If installed with "Create new custom\_dirs.dat [copy]" option:  
Environment variable "UGII\_CUSTOM\_DIRECTORY\_FILE" specified in the file  
<CADdoctor for NX Installation folder #2>\dll\StartNX.bat
4. To match the installation conditions of Computer A, create the environment variable "UGII\_CUSTOM\_DIRECTORY\_FILE" on Computer B and specify the file path for "custom\_dirs.dat".
    - If installed with "Share current custom\_dirs.dat [edit]" option:

System environment variable "UGII\_CUSTOM\_DIRECTORY\_FILE"

- If installed with "Create new custom\_dirs.dat [copy]" option:  
Environment variable "UGII\_CUSTOM\_DIRECTORY\_FILE" specified in the file  
"<CADdoctor for NX Installation folder (Computer A)>\dll\StartNX.bat"

5. Modify all the values of the folder path to the CADdoctor for NX installation folder (Computer B) in the setting files.

- Value of a parameter "csv\_folder" (to specify the log folder) in the following five files  
<CADdoctor for NX Installation folder (Computer B)>\<"japanese", "english" or  
"\$UGII\_LANG">\dfa

CADdoctor\_for\_NX\_Checker.dfa

CADdoctor\_for\_NX\_Healer.dfa

CADdoctor\_for\_NX\_Profile.dfa

CADdoctor\_for\_NX\_Healer\_Partial.dfa

CADdoctor\_for\_NX\_Profile\_Partial.dfa

- Example

( String Parameter ) csv\_folder: "D:\Elysium\CADdoctor\_for\_NX\log";

- The line where the path of CADdoctor for NX is included(dll path is specified):

```
<CADdoctor for NX Installation folder (Computer B)>\<"japanese", "english"
or "$UGII_LANG">\dfa\nxd_call_dll.dfa
```

- Example

String (\$lib; "D:\Elysium\CADdoctor\_for\_NX\dll\cdrnx\_healer");

- The line where the path of CADdoctor for NX is included(dll path is specified):

```
<CADdoctor for NX Installation folder (Computer B) >\<"japanese", "english"
or "$UGII_LANG">\startup\nxdr_tool.men
```

- Example

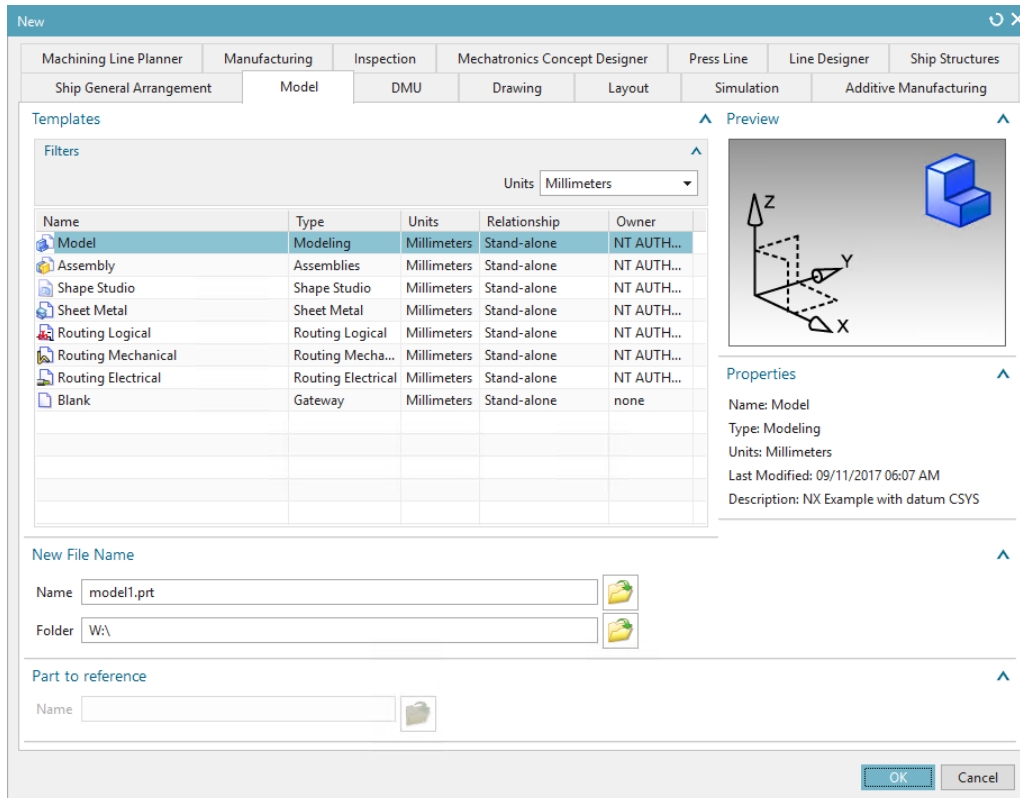
ACTION D:\Elysium\CADdoctor\_for\_NX\lib\nxd\_ug2hl.dll

## 3. Template Function

This section will describe the template function that can be used when creating NX model from Elysium Neutral File. To use the template function, the template must be registered in NX beforehand.

Confirm whether the template you want to use exists. In NX menu, select [File] > [New] and check the template list.

If the template does not exist, please refer to NX manual for details about how to register the template.



### 3.1. About pax File

The template shown in [New] dialog of NX is defined in a pax file. The followings are examples of pax file.

- Non-Teamcenter environment  
\$(UGII\_BASE\_DIR)\UGII\templates\ugs\_model\_templates.pax
- Teamcenter environment  
\$(UGII\_BASE\_DIR)\UGII\templates\nxdm\_ugs\_model\_templates.pax
- pax File Parameters and Parameter Description

| XML Element     | Attributes                               |
|-----------------|------------------------------------------|
| PaletteEntry id | ID (Required) The IDs have to be unique. |

| XML Element              | Attributes                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Presentation name        | The name of the template (Optional)                                                                                                                                                                                                                                                                                                                                                                                |
| Presentation description | Use to provide a more detailed description for each template (Optional)                                                                                                                                                                                                                                                                                                                                            |
| ObjectData class         | Identifies the application that is associated with this template (Required)<br>Valid values are:<br>ModelTemplate<br>AssemblyTemplate<br>DrawingTemplate<br>SheetTemplate<br>CaeFemTemplate<br>CaeSimTemplate<br>RoutingLogicalTemplate<br>RoutingElectricalTemplate<br>RoutingMechanicalTemplate<br>NXSheetMetalTemplate<br>AeroSheetMetalTemplate<br>FlexPCDSSheetMetalTemplate<br>StudioTemplate<br>CamTemplate |
| Filename                 | The file name of the template part (Required)<br>In Teamcenter environment, specify @DB/Partname/PartRevision                                                                                                                                                                                                                                                                                                      |
| Units                    | The units of the template part (Required)<br>Valid values are:<br>Metric<br>English                                                                                                                                                                                                                                                                                                                                |

## 3.2. How to Specify Custom Template of NX (without Teamcenter)

Edit the following .ini file to specify the custom template.

- (Example) C:\Elysium\CADdoctor\_for\_NX\ely\_plugin.ini

```
[ENF2UFUNC]
UseTemplateFile=1
TemplatePart=my_template.prt
TemplatePartAppType=ModelTemplate
TemplatePartAppUnit=Metric
TemplateAsm=my_template.prt
TemplateAsmAppType=ModelTemplate
TemplateAsmAppUnit=Metric
```



Do not include a space before or after the "=" character.

When using the template function, you must specify all seven parameters below.

- Details of each element

| Name                | Attributes                                                                      |
|---------------------|---------------------------------------------------------------------------------|
| UseTemplateFile     | 0: Do not use the template (Blank Template will be used)<br>1: Use the template |
| TemplatePart        | Template part name ("FileName" in pax file)                                     |
| TemplatePartAppType | Application name of template part<br>("ObjectData class" in pax file)           |
| TemplatePartAppUnit | Unit system of template part ("Units" in pax file)                              |
| TemplateAsm         | Template assembly name ("Filename" in pax file)                                 |
| TemplateAsmAppType  | Application name of template assembly<br>("ObjectData class" in pax file)       |
| TemplateAsmAppUnit  | Unit System of template part ("Units" in pax file)                              |

### 3.3. How to Specify Custom Template of NX (with Teamcenter)

Edit the following ".ini" file to specify the custom template.

- (Example) C:\Elysium\CADdoctor\_for\_NX\ely\_plugin.ini

```
[ENF2UFUNC]
UseTemplateFile=1
TemplatePart=@DB/my_template/A
TemplateAsm=@DB/my_template/A
```



Do not include a space before or after the "=" character.

When using the template function, you must specify all three parameters below.

- Details of each element

| Name            | Attributes                                                                      |
|-----------------|---------------------------------------------------------------------------------|
| UseTemplateFile | 0: Do not use the template (Blank Template will be used)<br>1: Use the template |
| TemplatePart    | Name of template part ("FileName" in pax file)                                  |
| TemplateAsm     | Name of template assembly ("FileName" in pax file)                              |

## 3.4. Precautions

Before using the template, check whether the custom template has already been added.  
To register the template to NX, please refer to NX manual for more details.

Before executing "Import from Elysium Neutral File (ENF)", it is necessary to create a new empty part on NX. The new empty part will be used as the top assembly.

The specified template is not applied to this part. The template selected during the creation of a new part will be used.

## 3.5. How to Specify the "Part Revision" of NX (with Teamcenter)

Edit the following ".ini" file to specify the Part Revision. If no parameter is specified, the default value is "AA".

- (Example) C:\Elysium\CADdoctor\_for\_NX\ely\_plugin.ini

```
[ENF2UFUNC]  
PartRevision=A
```



Do not include a space before or after the "=" character.

Before executing "Import from Elysium Neutral File (ENF)", it is necessary to create a new empty part on NX. The new empty part will be used as the top assembly.

The specified template is not applied to this part. The template selected during the creation of a new part will be used.

## 3.6. How to Specify the "Part Type (Item Type)" of NX (with Teamcenter)

Edit the following .ini file to specify the Part Type. Default type is the same as the default of Teamcenter.

- (Example) C:\Elysium\CADdoctor\_for\_NX\ely\_plugin.ini

```
[ENF2UFUNC]  
PartType=CAD
```



Do not include a space before or after the "=" character.

Before executing "Import from Elysium Neutral File (ENF)", it is necessary to create a new empty part on NX. The new empty part will be used as the top assembly. The specified template is not applied to this part. The template selected during the creation of a new part will be used.

## 4. Customize Functions

By adding parameters, the following functions can be used.

### 4.1. Heal IsolatedCurve

In default setting, IsolatedCurve will not be healed. Edit the following .ini file to heal the IsolatedCurve.

- (Example) C:\Elysium\CADdoctor\_for\_NX\english\settings\ely\_plugin.ini

```
[UFUNC2ENF]  
SkipIsolatedCurve=0
```



Do not include a space before or after the "=" character.

### 4.2. Export DB\_PART\_NAME, DB\_PART\_NO to ENF

By adding parameter to "ely\_plugin.ini" in <Installation folder>, DB\_PART\_NAME and DB\_PART\_NO can be translated as system attributes "PartName" and "Name". If PartNameRule = 3, then DB\_PART\_NO is translated as "Name" of system attribute, and NX part file name is not translated.

- (Example) C:\Elysium\CADdoctor\_for\_NX\ely\_plugin.ini

```
[UFUNC2ENF]  
ConvertPartName=1  
PartNameRule=3
```



Do not include a space before or after the "=" character.

All rights reserved by Elysium or the original author of this material. The content may not be edited, reproduced, distributed, transmitted, displayed, published, broadcast, sold or lent without the prior permission of the author.