NX Post Configurator
002 - Introduction

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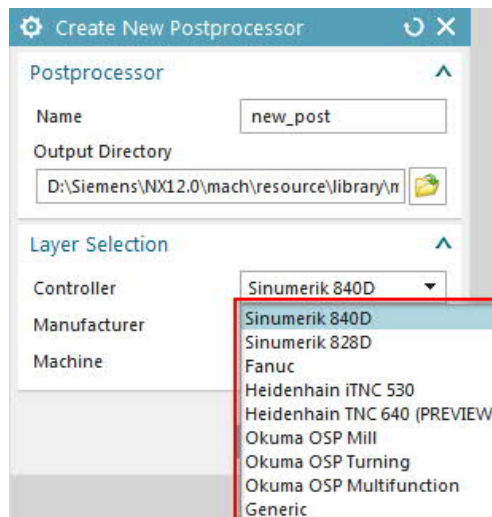*Ingenuity for life*

Content

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- **Concept**

- **Post Builder & Post Configurator**

- **Post Processor levels**

- **License**

- **Roadmap**

- **Post Configurator UI and Top Features**

- **Documentation**

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Concept:
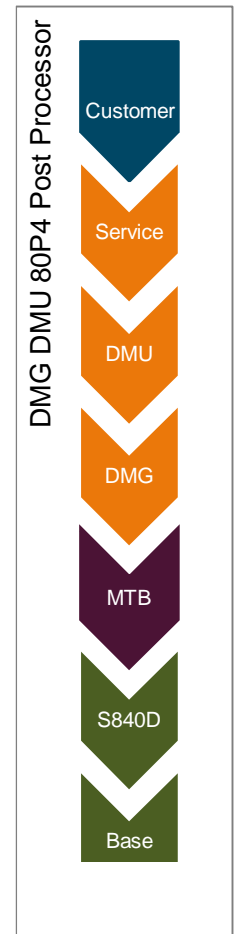## What is the Post Configurator?

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What is Post Configurator?

- New easy-to-use and integrated development tool for Post Processors within NX CAM

- Promote Re-use rather than Re-write

- Layer concept instead of monolithic files

- Separated core functionality from customization

- Based on the same underlying MOM architecture

- Built-in protection capability for Post Processors

- OOTB supported controllers (NX12.0.2)

  ➢ Sinumerik 828D/ Sinumerik 840D

  ➢ Heidenhain iTNC530/ TNC640
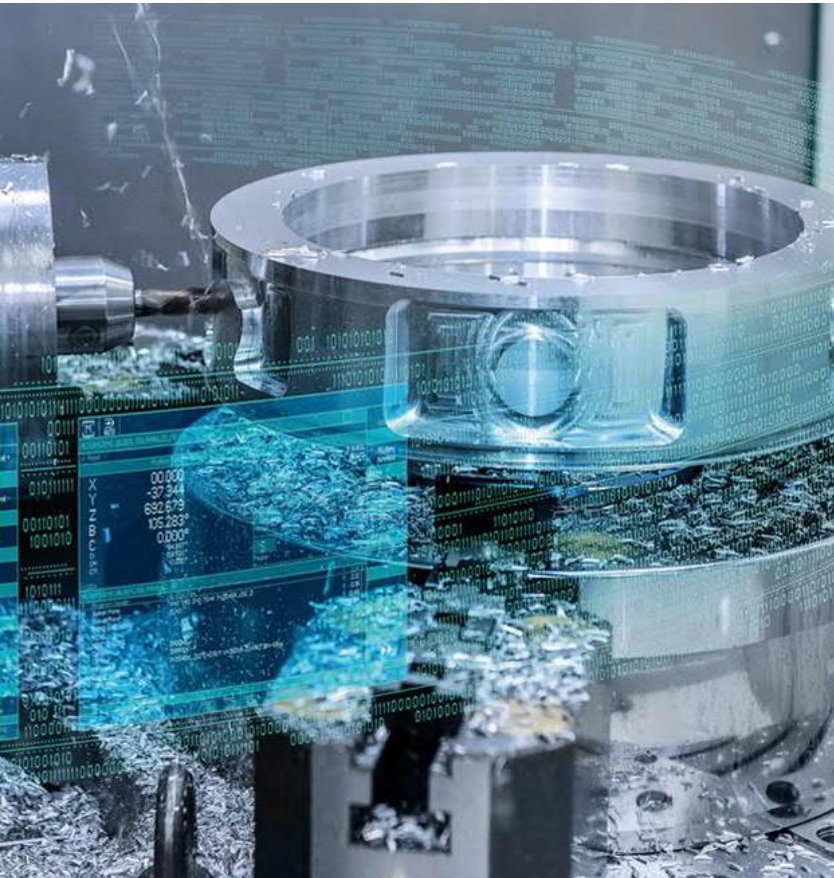
  ➢ Fanuc Series

  ➢ Okuma OSP Mill/ Turn/ Millturn

Concept
Layers

- Post Processor is more than one monolithic file now, it is split up in **layers**

- Multiple layers with different functionality, not every layer is always required

- A **layer**...

  ... can add new functionality.

  ... can overwrite existing functionality.

  ... can be Tcl code.

  ... can be encrypted.

  ... can be protected.

DMG DMU 80P4 Post Processor

| Customer |
| Service |
| DMU |
| DMG |
| MTB |
| S840D |
| Base |

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Post Configurator & Post Builder
Future of Post Builder and Post Configurator

What is the future of Post Builder?

- All TCL posts (incl. posts created using Post Builder) will continue to run and be supported, no plans to retire TCL, MOM, MOM events support or the underlying architecture

- Post Builder continues to be fully supported, maintained and enhanced, with bug fixes and new features as it has been until now

- All OOTB machines are migrated to a Post Configurator based post

- With NX1847 most of OOTB machine tools only contains Post Configurator based posts

Long term:

- Help existing customers to transition to the use of Post Configurator based posts

- Evaluate if/when it will be possible to retire Post Builder

- Work with customers and partners to formulate a clear strategy which is realistic

Post Configurator & Post Builder
Migration of Post Builder posts

Is it possible to migrate old post to the new platform?

- Post Configurator post are completely differently structured than Post Builder posts

- Post Builder *cannot* open Post Configurator posts

- Post Configurator *cannot* open Post Builder posts

- There is no automatic migration path or tool currently available

- Due to the same underlying interface with NX (MOM events and MOM variables) a lot of the PB source could be reused for Post Configurator

Should the post be migrated manually?

- If a post works fine currently, we do not recommend migrating at this time

Post Configurator & Post Builder
For new post processors

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Should Post Configurator be used for new posts?

- For new machines we recommend using Post Configurator

- Siemens PL would offer to support and help in this transition

What skills will developers need to create a new authoring environment? Or maintain their posts going forward?

- The same requirements as for Post Builder as underlying architecture (MOM events and MOM variables) is

  the same :

  1. Tcl knowledge

  2. MOM/MOM event knowledge

  3. Post Configurator knowledge

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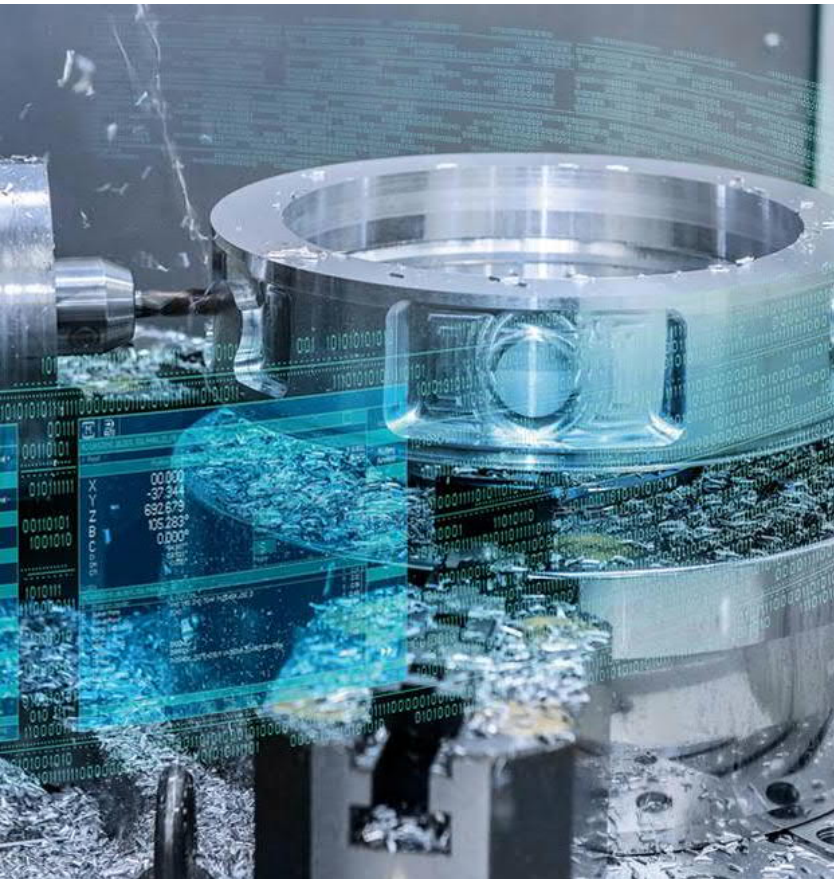
Concept post processor levels

Build up a Post processor library for your market:

- Using Masterpost concept
- Create new controllers
- Create specialized functionality for reuse which was requested
- by customers

Users:
- Service/ Development

Value:
- One time efforts will reduce costs for future
- Sharing knowledge in the team/ Standardization of coding

Costs

Production ready post processor:
- Proved with acceptance part/ customer part on real machine tool
- Tcl customization low…high, depends on customer request
- Ideally full machine tool kit

Users:
- Post processor/ MTK service

Value:
- Bring back modifications to standard libraries
- next request will result in less modifications

Customer

Quality

Speed

Demo/ Easy machine tools:
- Create a postprocessor with kinematic models or kinematic layer
- Fanuc based postprocessors can be used for a lot of controllers (MACH3, Fanuc series, Haas….)
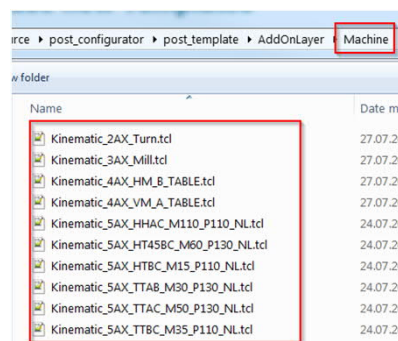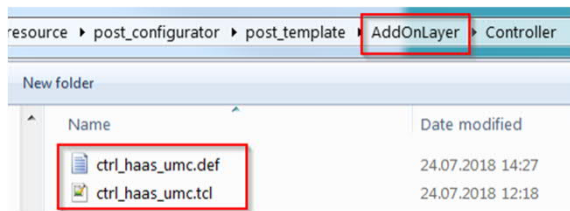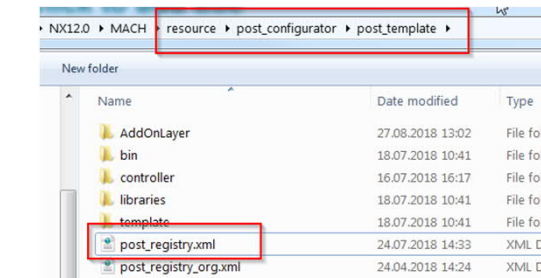- Small adjustments for a first good output

Users:
- Presales/ Service/ Demo NX CAM

Value:
- no/ small costs and shows that we can deliver each kind of postprocessor

Reuse new Templates

With Post Configurator it's possible to add/ modify/ create new Templates which will be selectable during Postprocessor creation
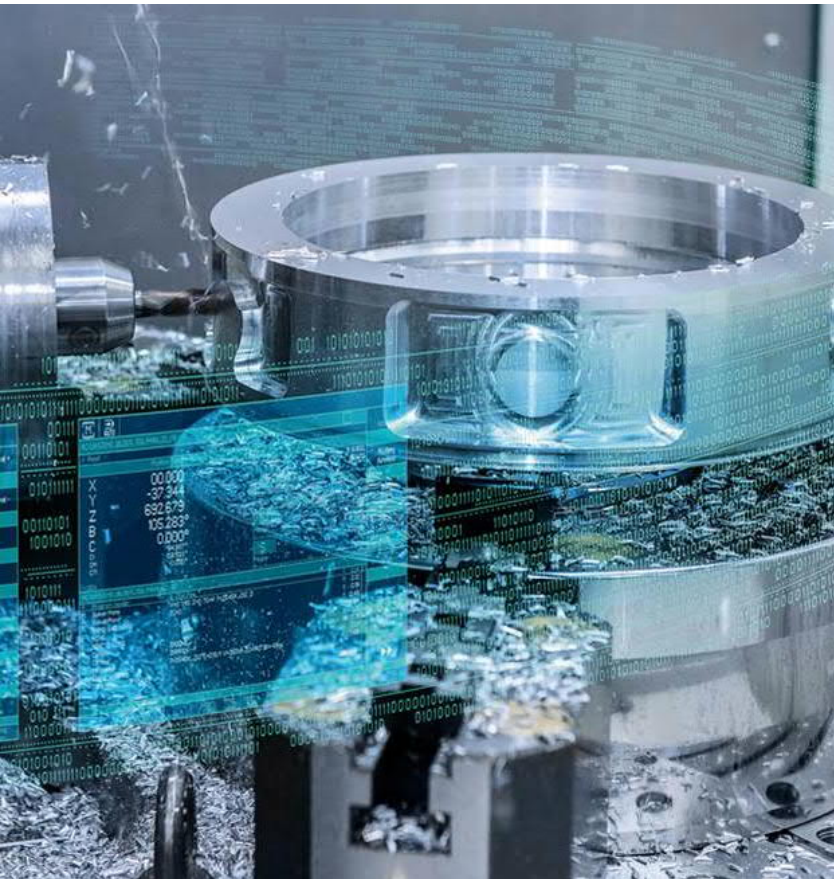
Best practice is to keep origin post_template folder as a backup or locate the customized environment on a network server

The post registry contains the items which

Will be shown in the Create postprocessor

Dialog
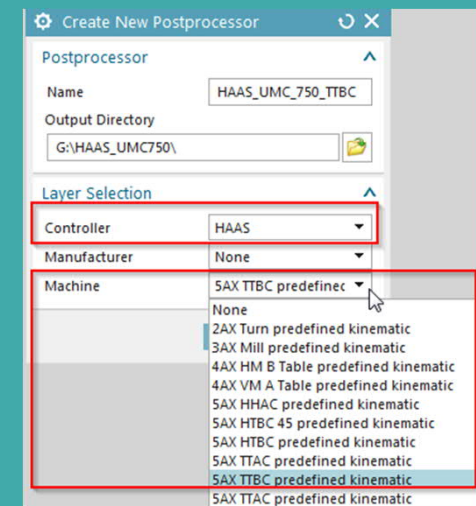
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Available Post Configurator Licenses

Basic
Free

- End Customer & CAM User

- Free for all users and included in NX CAM

- Execute new post processors

Advanced
NX31439

- Post Developer

- Included for all Post Builder users

- Execute new post processors
- Create new post processor
- Change settings through the UI

Full
NX 31440

- OEM, Service, Partners, Post Developer

- Execute new post processors
- Create new post processor
- Change settings through the UI
- Customization using Tcl
- Protect and Encrypt

Bundle/License Distribution
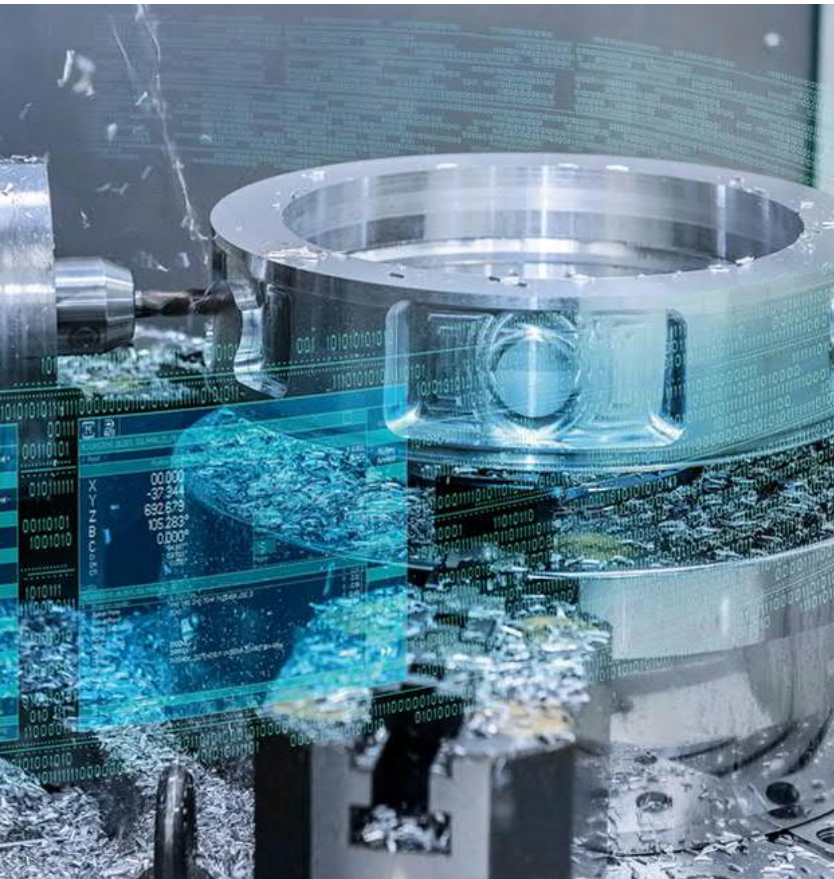
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New customers:

– Post Configurator *Advanced* is included in the following bundles:

- **NX11430**   NX CAM Foundation
- **NX12440**   NX CAD/CAM Turning Foundation
- **NX12445**   NX CAD/CAM 2.5 Axis Milling Foundation
- **NX12450**   NX CAD/CAM 3 Axis Milling Foundation
- **NX12460**   Mach 2 CAM-only 5 Axis Machining
- **NX13430**   NX Total Machining
- **NX13440**   NX Advanced 5 Axis Machining

Existing customers:
All PostBuilder users will get Post Configurator Advanced

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- **Post Configurator UI and Top Features**

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Post Configurator
Roadmap

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NX11.0.2
05.07.2017

- **Additional controller**
- Okuma Controller (Prod)

- **New features**
- Editor for DEF files

- **Enhancements**
- Stabilization

- **Updated libraries**
- Version: 4.2.2

NX12.0.1
20.02.2018

- **New features**
- Editor for UDE files
- New Pretreatment (Prev)
- Layer Viewer
- Performance Improvements

- **Enhancements**
- Stabilization
- Multi-Channel support (Prev)
- Multi-Function support (Prev)

- **Updated libraries**
- Version: 4.3.2

NX12.0.2
17.07.2018

- **Additional controller**
- Heidenhain 640 (Prev)

- **New features**
- Inspect Tool
- Progress Indicator
- Enhanced 3axis mode

- **Enhancements**
- Tcl8.6 Upgrade
- Multi-Channel support (Prod)
- Multi-Function support (Prod)
- Stabilization

- **Updated libraries**
- Version: 4.4.4

NX1847
22.01.2019

- **New features**
- Enhanced Inspect Tool
- TBC Encryption
- New Pretreatment (Prev)

- **Enhancements**
- Performance Improvements
- Full Turning support
- Full MillTurn support
- Stabilization

- **Updated libraries**
- Version: 4.5

NX1872
(as planned)
25.06.2019

- **New features**
- Unencrypted Template Post
- Inspect Tool connected to Def editor
- UI Bitmap Support
- UI Unit handling

- **Enhancements**
- additive enhancements
- Post processing non consecutive operations

- **Updated libraries**
- Version: 4.7.1

NX1899

- **New features**
- Inter property logic
- Layer Manager UI
- Post Hub connector
- Update mechanism for post processors

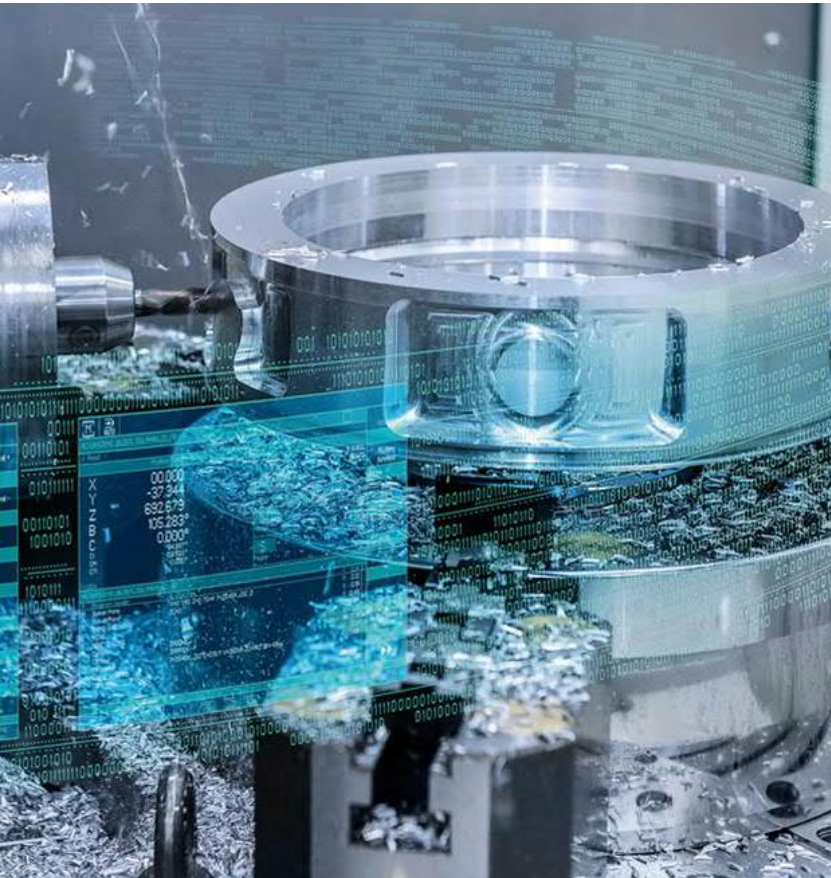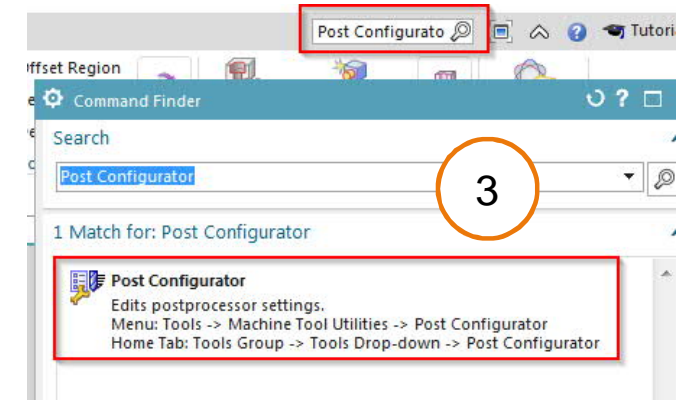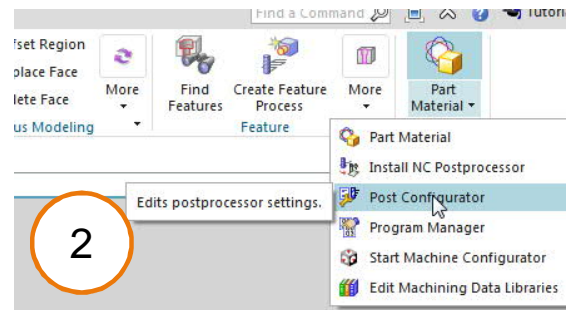- **Enhancements**
- Interoperation path
- NXOpen support

2017
CY

2018

2019

2020

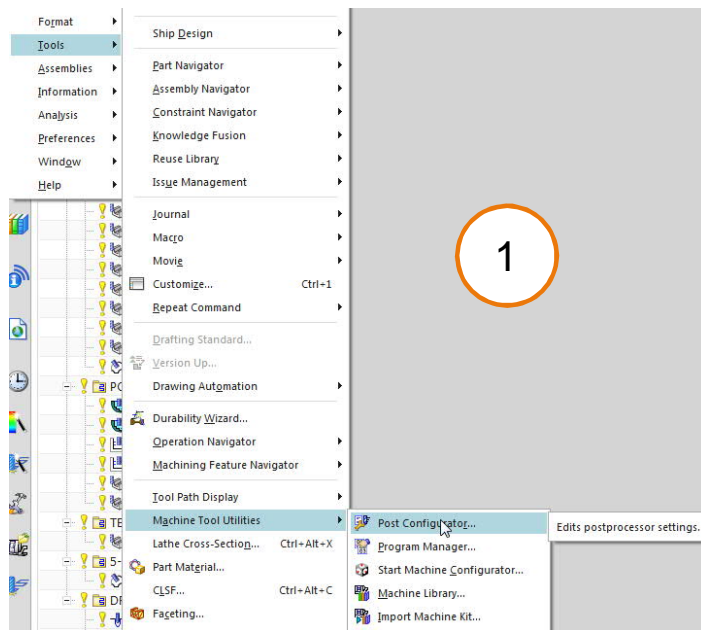Siemens PLM Software

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- **Post Configurator UI and Top Features**

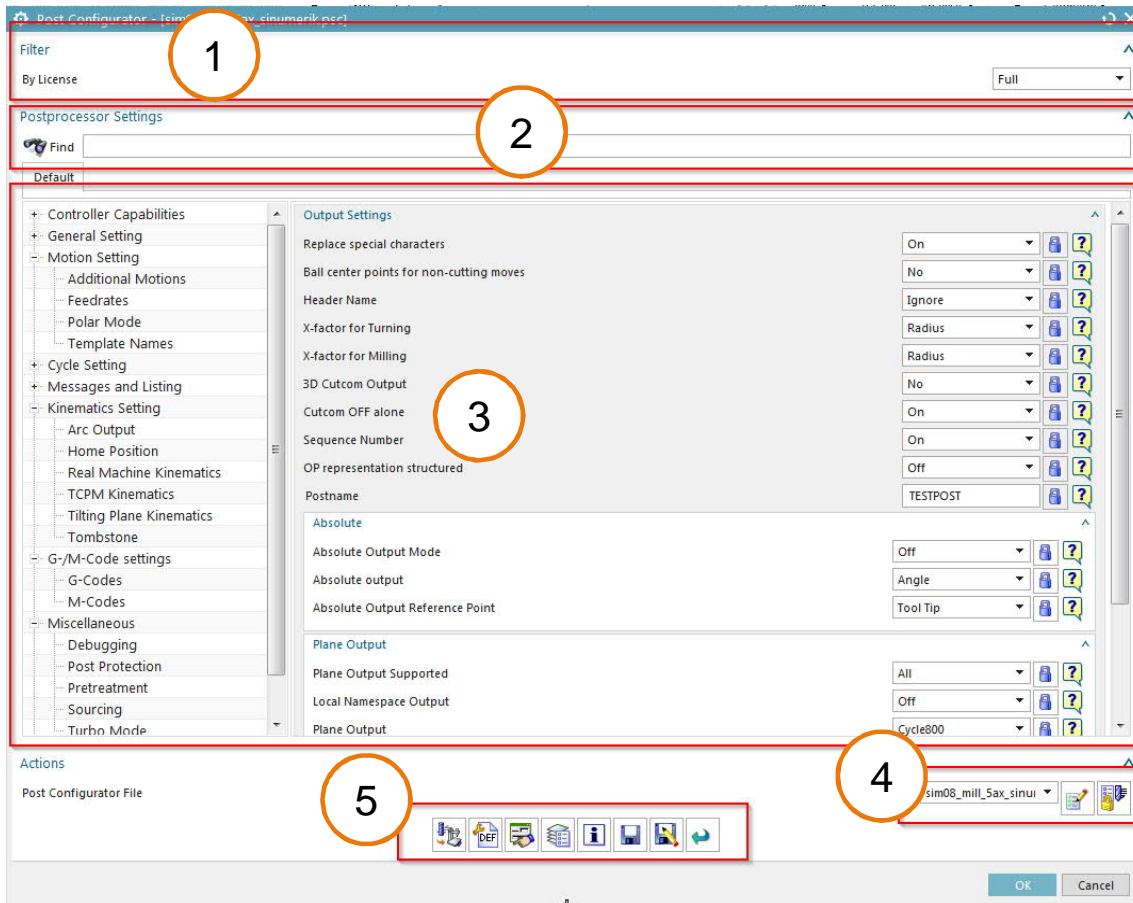- **Documentation**

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Where do I find the Post Configurator App?

1. Start from classic menu

2. Start from ribbon bar with CAM advanced Role (Tools group)

3. Didn't find it? Use the command search

Overview User Interface

1. Filter by license for developers (Customer default)

2. Integrated search for properties

3. Properties settings to control the NC output

4. Integrated Tcl-editor and Encryption

5. Actions:
   - Temporary post processing
   - DEF-editor
   - UDE-editor
   - Layer Manager
   - Changelog
   - Save/ SaveAs
   - Reset

Top Feature: Editor for DEF files
Overview

Capabilities

- Easily add, remove or modify DEF elements such as templates, blocks, words, formats, etc. through an integrated UI

- List all available DEF elements from layers

- Fully integrated in Post Configurator, no need to edit files by hand

- Auto complete functionality

Customer Benefits

- Easy and **integrated editor for DEF elements**
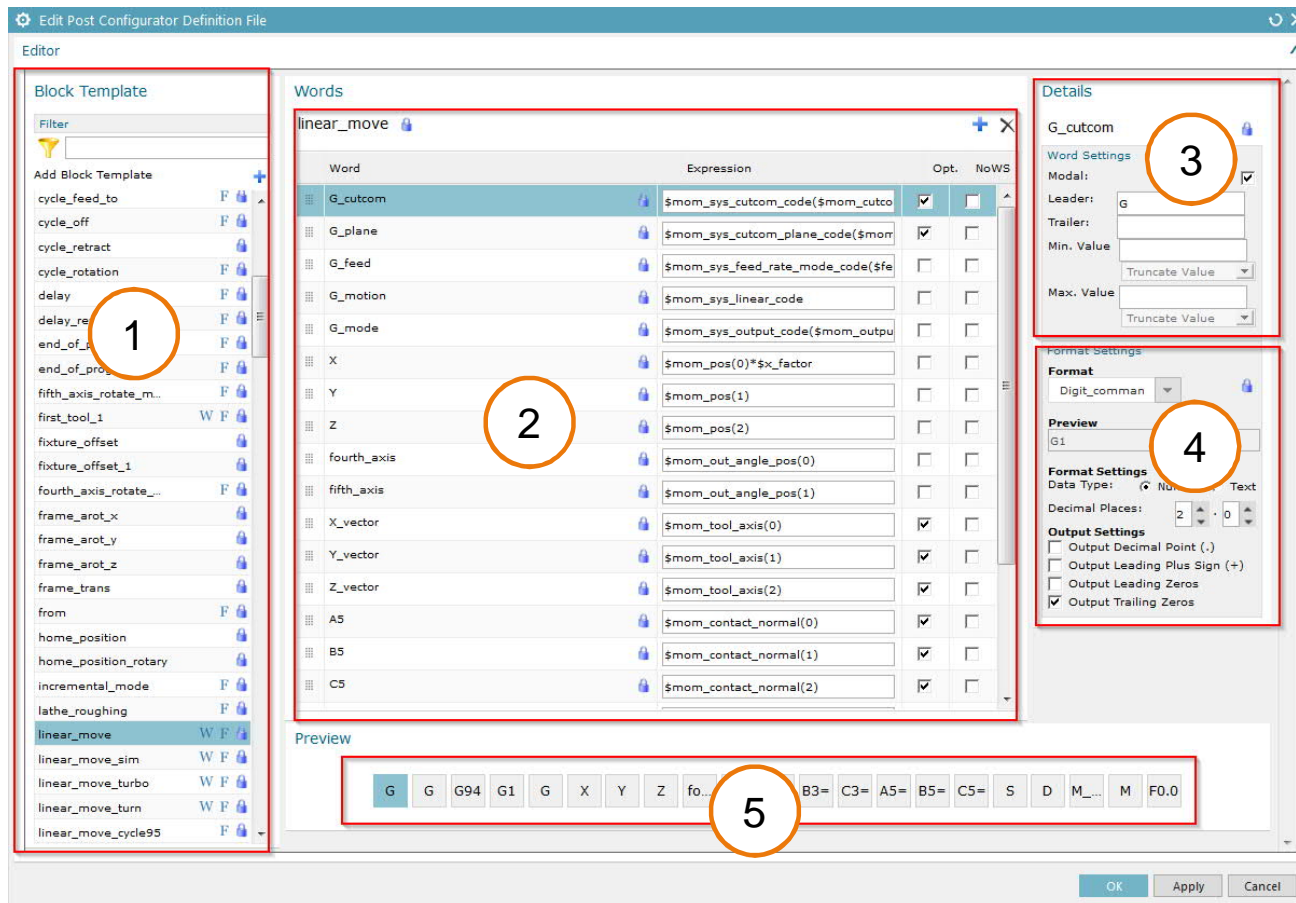- Saves time extending the post processor events.

Top Feature: Editor for DEF files
Overview Details

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1. List of defined Blocktemplates and Filter settings

2. Details from selected Blocktemplate

3. Word Details, e.g. set Leader, Trailer

4. Add/ modify/ remove Format settings for selected Word

5. Preview of Blocktemplate

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Top Feature: Editor for UDE files
Overview

Capabilities

- Easily add, remove or modify UDE through an integrated UI

- List all available UDE elements from layers

- Preview new user interface of custom event

- List available variables and prototype Tcl handler

- Fully integrated in Post Configurator, no need to edit files by hand

Customer Benefits

- Easy and **integrated editor for User Defined Events**
- Saves time extending the post processor events.

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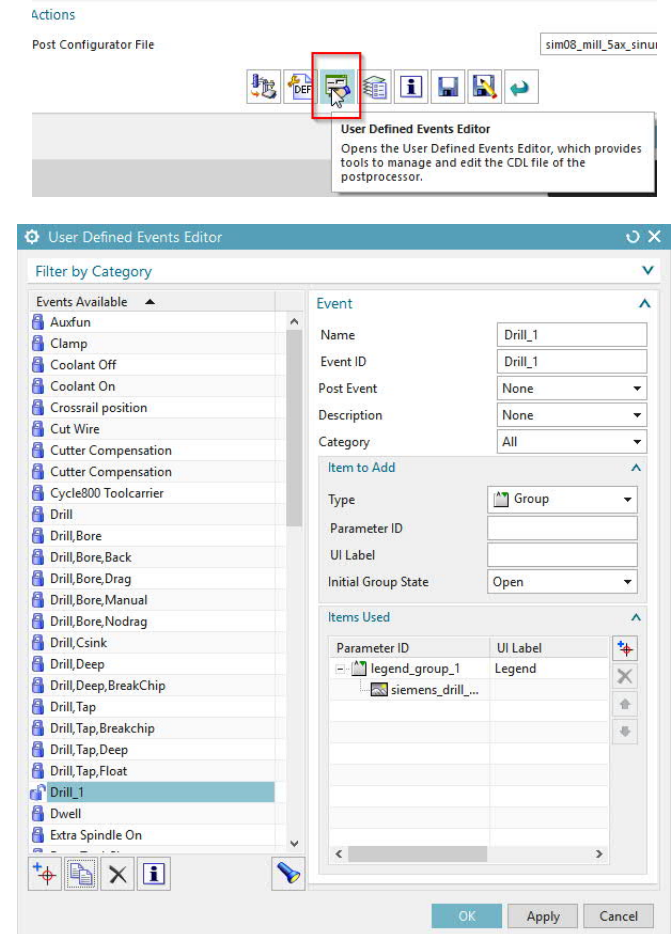
Top Feature: Editor for UDE files
Overview Details
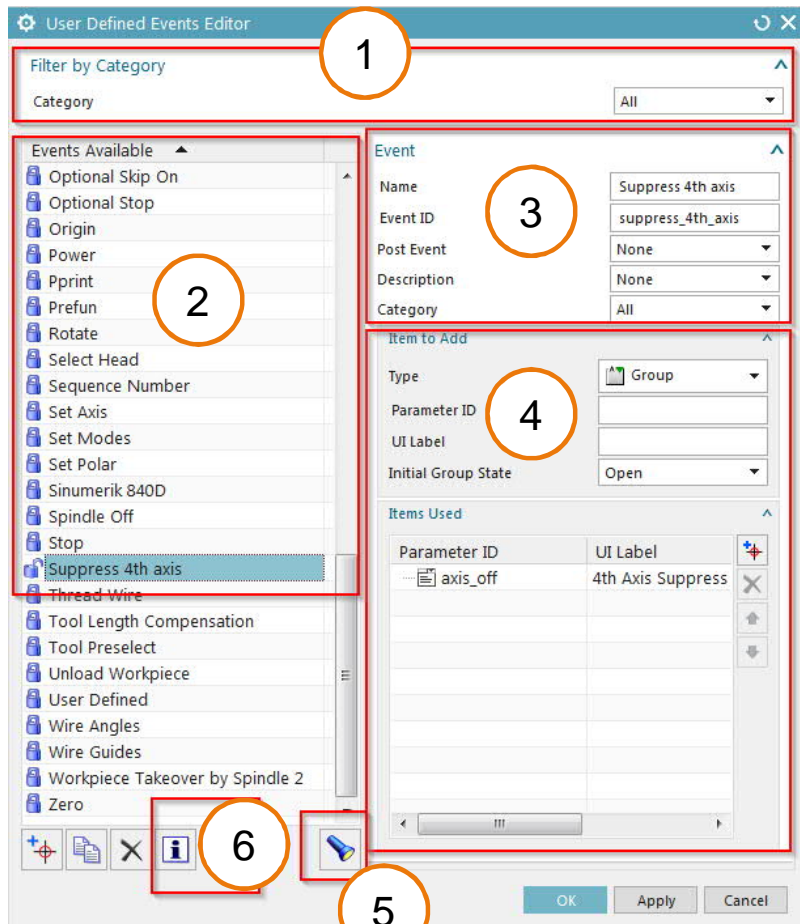
1. Filter UDE's by category
2. List of available UDE's from layers

3. General settings for created/ modified UDE such as category
4. Add/ modify/ remove UDE items such as double, integer, bitmap, options, groups

5. Preview of UDE

6. Information listing of UDE with auto generated Event handler code

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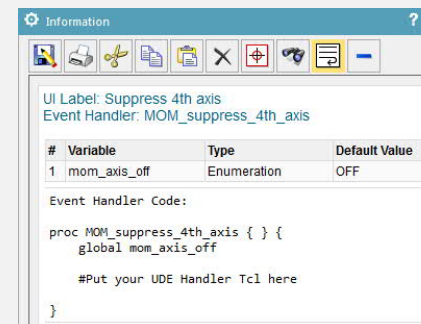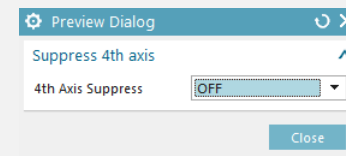
Top Feature: Tcl editor
Overview

Capabilities

- Integrated Tcl editor with syntax checking

- Snippet and Auto complete functionality

- Search for Tcl code/ highlight all matched items (CTRL+F)

- Can be extended with new snippets

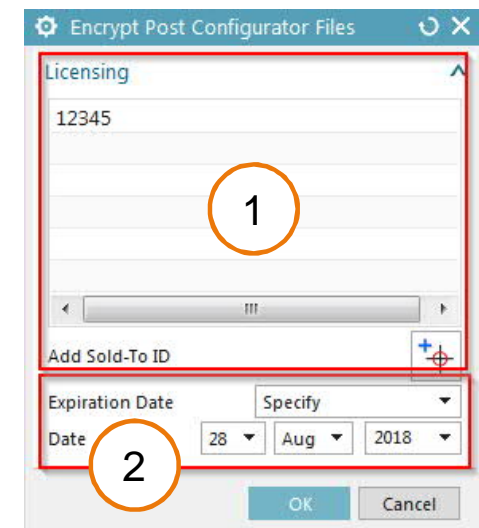- Integrated help and documentation for commands/ variables
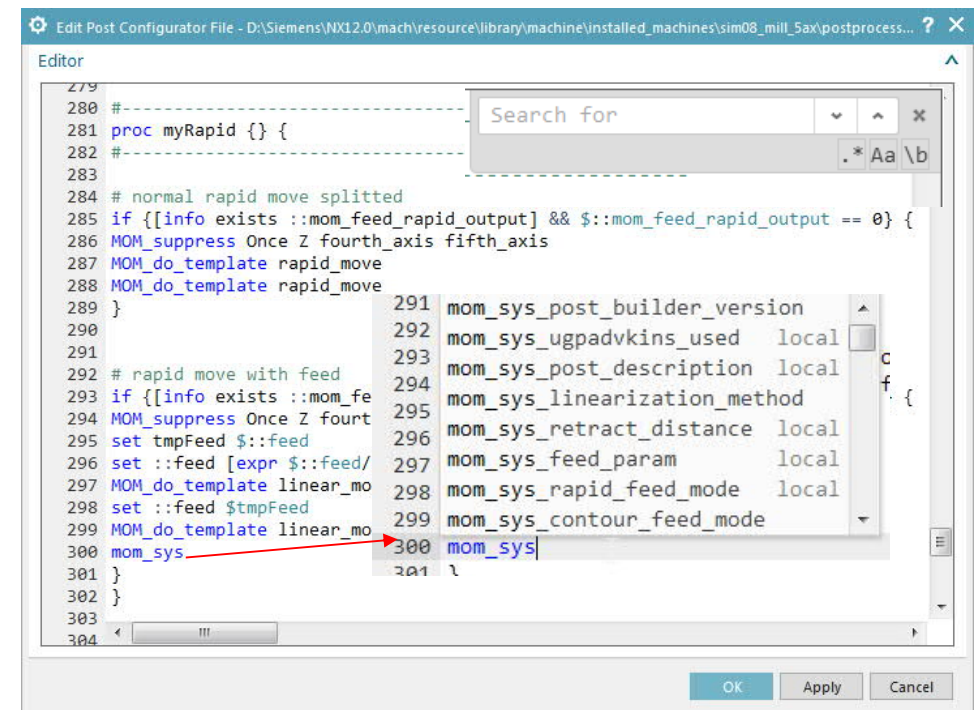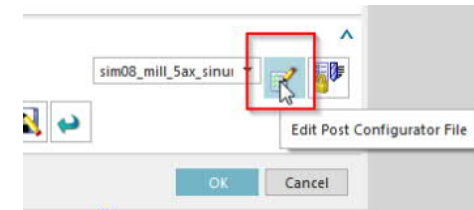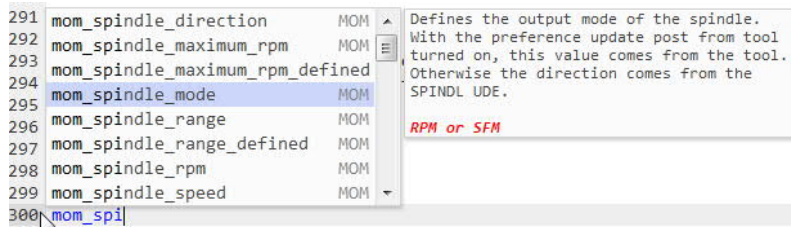
Top Feature: Encryption
Overview

Capabilities

- Encrypt files to sold to ID, only this user(s) is allowed to execute the post (1)

- Encrypt files to an expiration date, e.g. for Demo purposes (2)

- Encrypt files to an ID and expiration date

- All Tcl files will be encrypted which are sourced into current postprocessor

Top Feature: Multichain support
Overview

Capabilities

- Easily setup a post processor for multi-channel and – function machines through integrated NX user interface
- Chains & channels defined in the machine kinematic will automatically be reused
- Right settings will be used based on the active chain of the machine
- This functionality can be customized and used through the Tcl/MOM interface
- Even for simple MillTurn machine tools only UI properties are needed (Tcl is needed with increase of complexity

- **Note:** This is now a production ready Feature with NX12.0.2
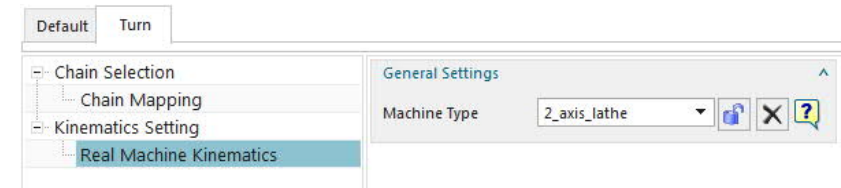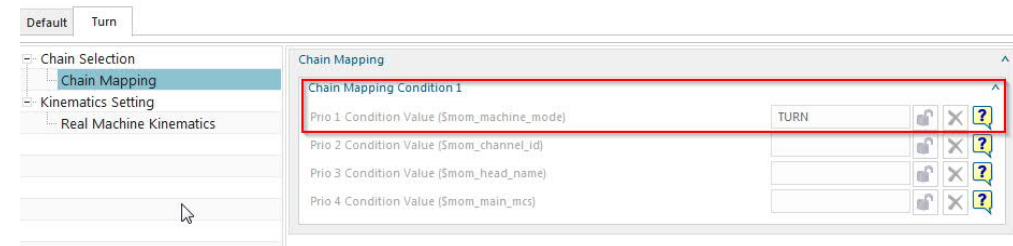
# Top Feature: Inspect Tool
Overview

Capabilities

- Integrated debugging and inspect tool to understand the
  post processing run

- Listing of all relevant information, such as MOM events
  and variables and corresponding NC line

- Very fast loading times compared to old review tool

- Preview: Buffer Events for easy modifications in Buffers
  (set UGII_CAM_POST_CONFIGURATOR_INSPECT_TOOL_PREVIEW=1)

Customer Benefits

- Easy way to inspect and understand the data used by
  the post processor

- Make modifications on the post processor faster

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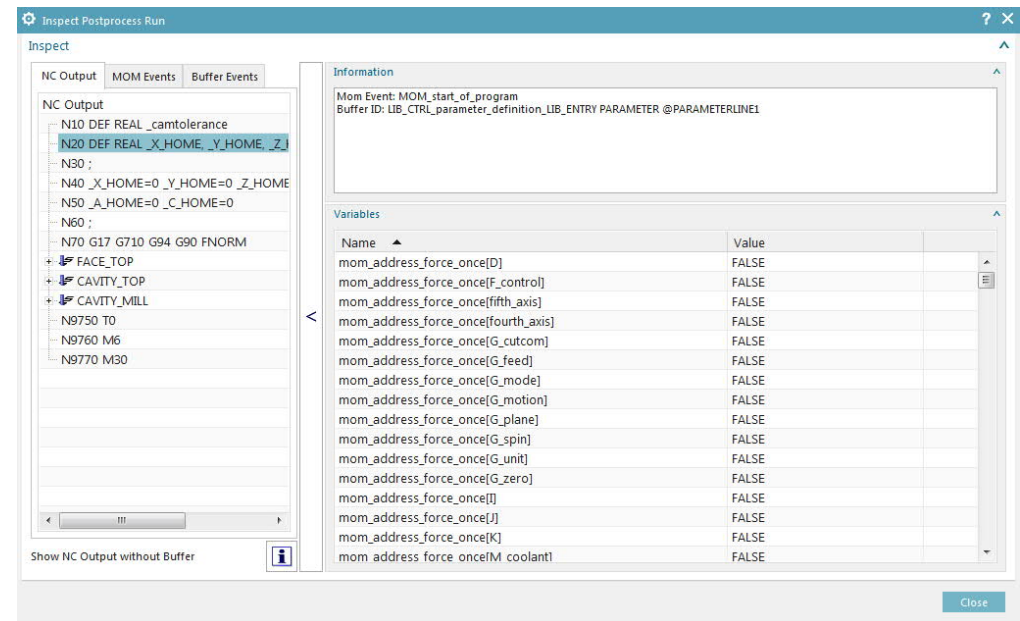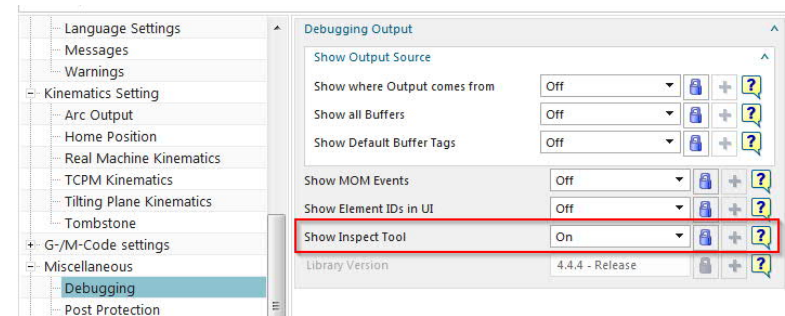
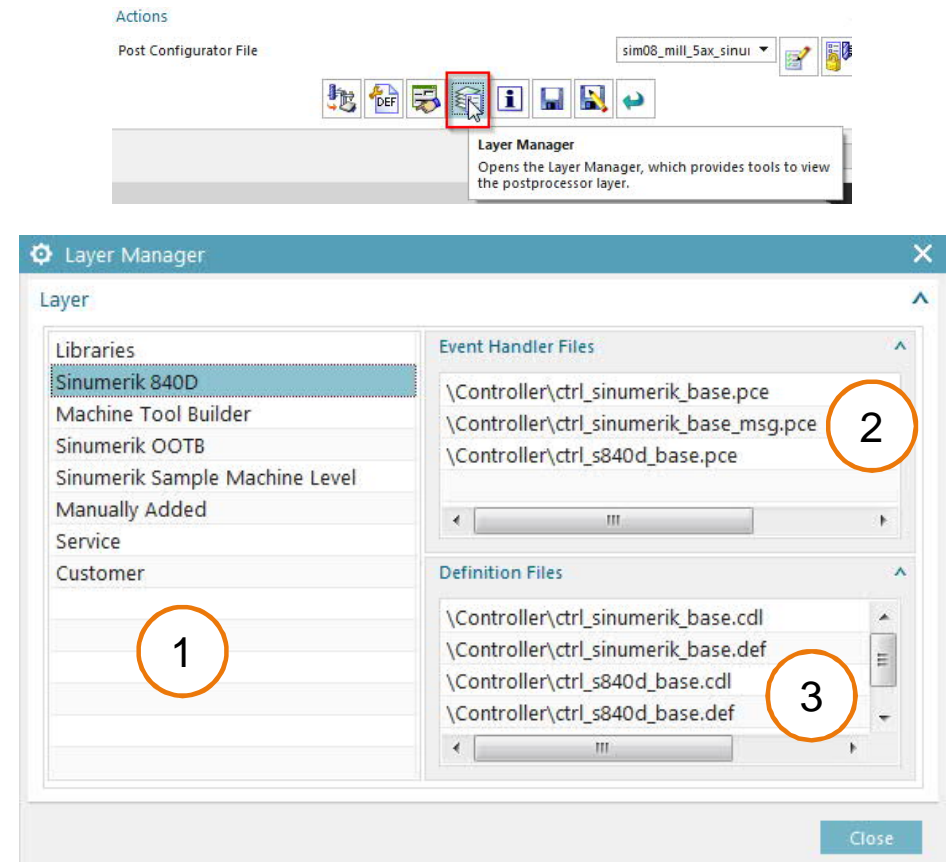# Top Feature: Layer Manager
Overview

Capabilities

- List all available post processor layers

- Show all related Event Handler files

- Show all related Definition files, for User Defined Events and Formatting
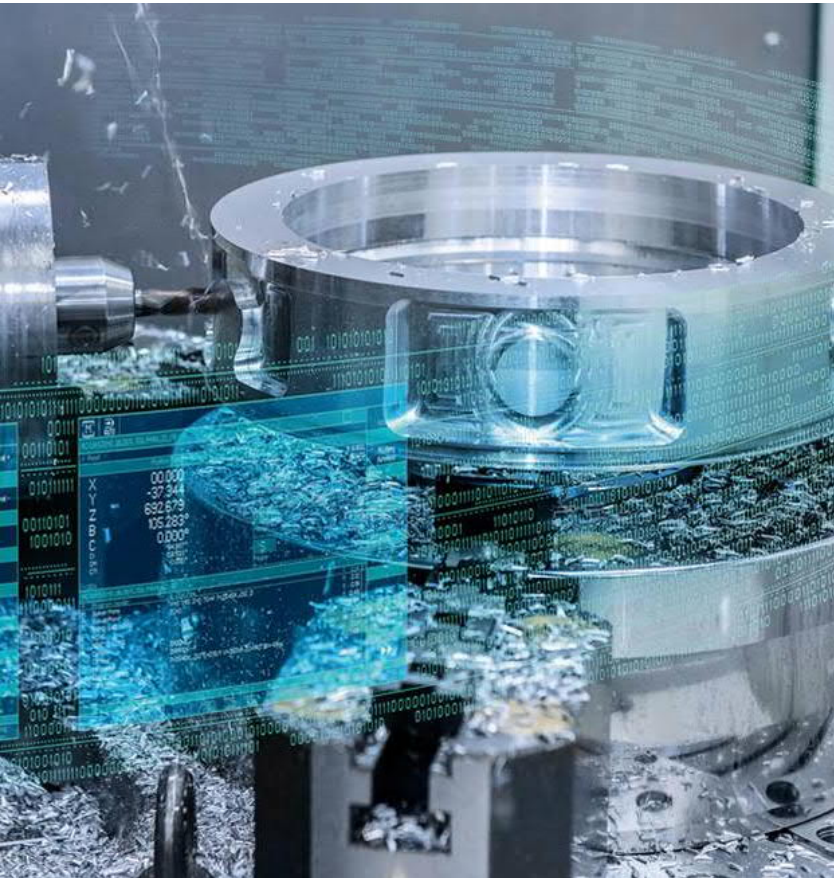
Customer Benefit

- Graphical user interface to **understand layer structure** of a post processor faster

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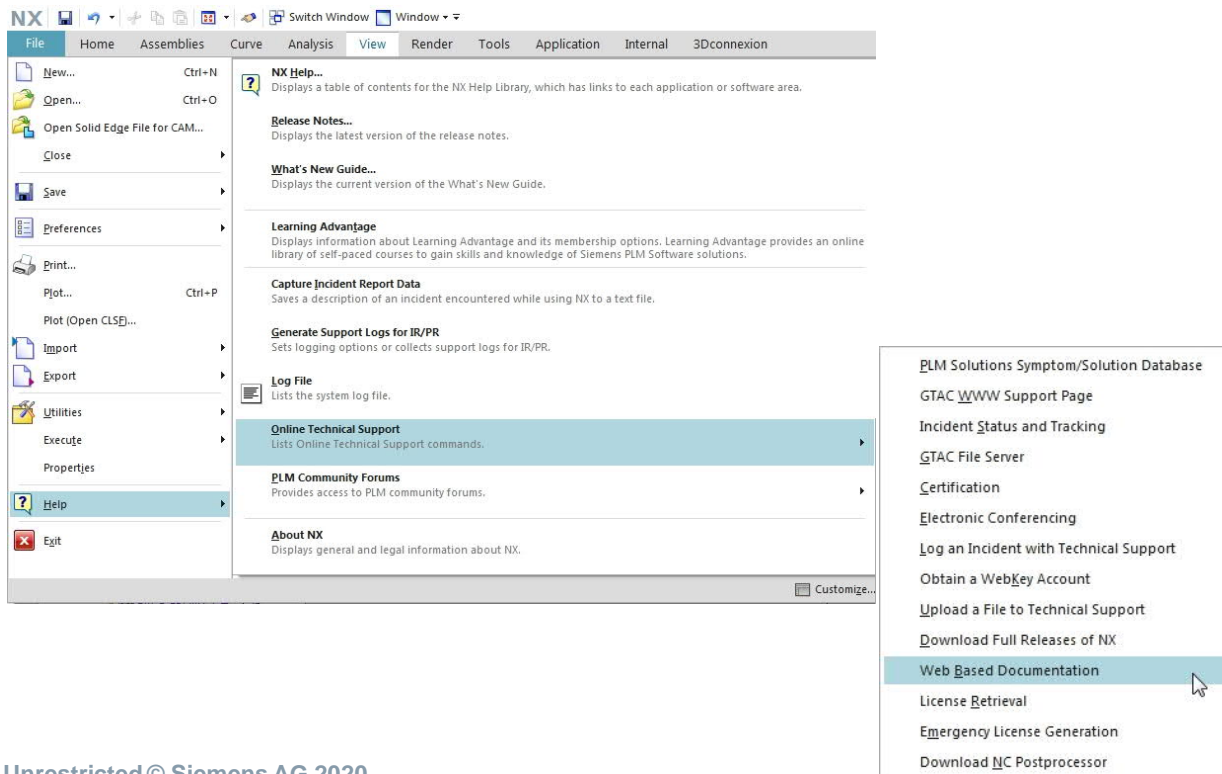- **Post Configurator UI and Top Features**

- **Documentation**

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Documentation
As part of the official NX help collection

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Documentation is provided through the GTAC website:

https://support.industrysoftware.automation.siemens.com/general/documentation.shtml

In NX use:

- File
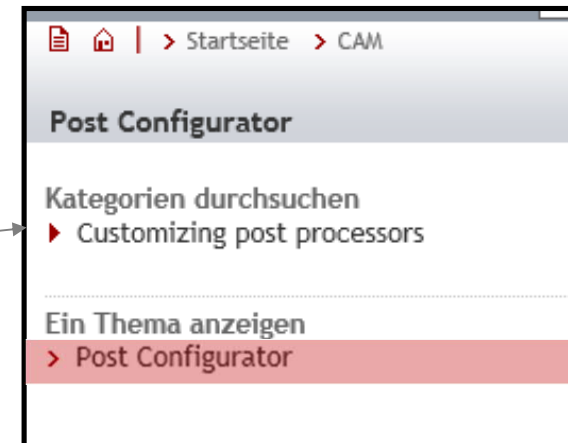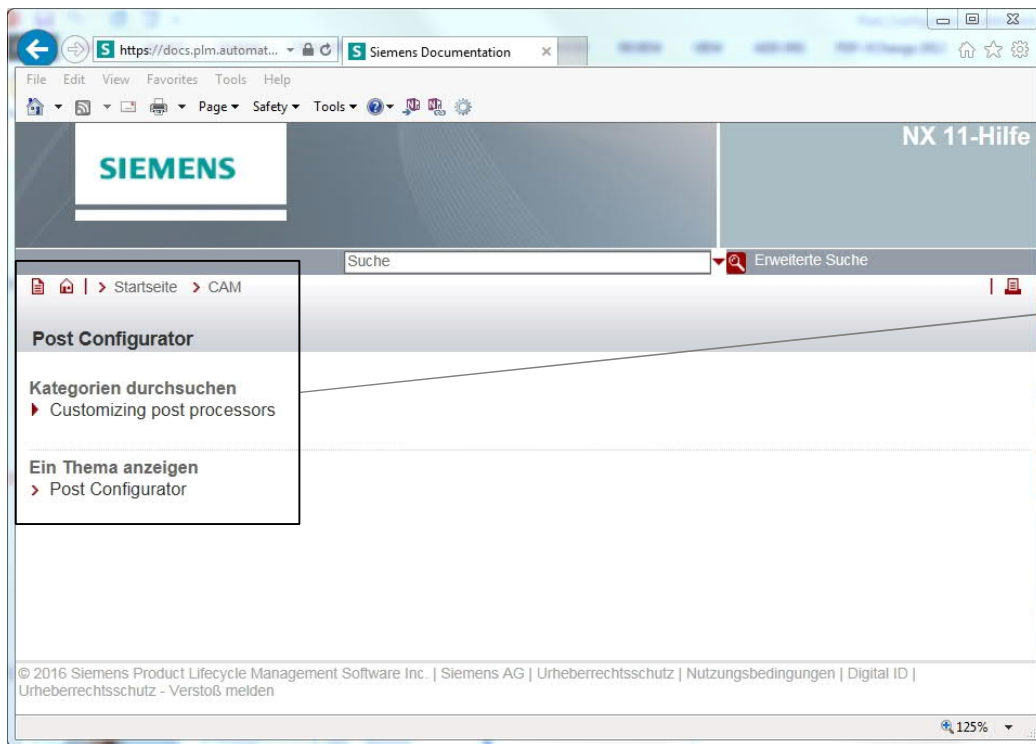- Help
- Online Technical Support
- Web Based Documentation

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Documentation
As part of the official NX help collection

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Post Configurator documentation is provided through the GTAC website:

https://docs.plm.automation.siemens.com/tdoc/nx/11/nx_help/#uid:xid1128418:index_mfgpostconfig
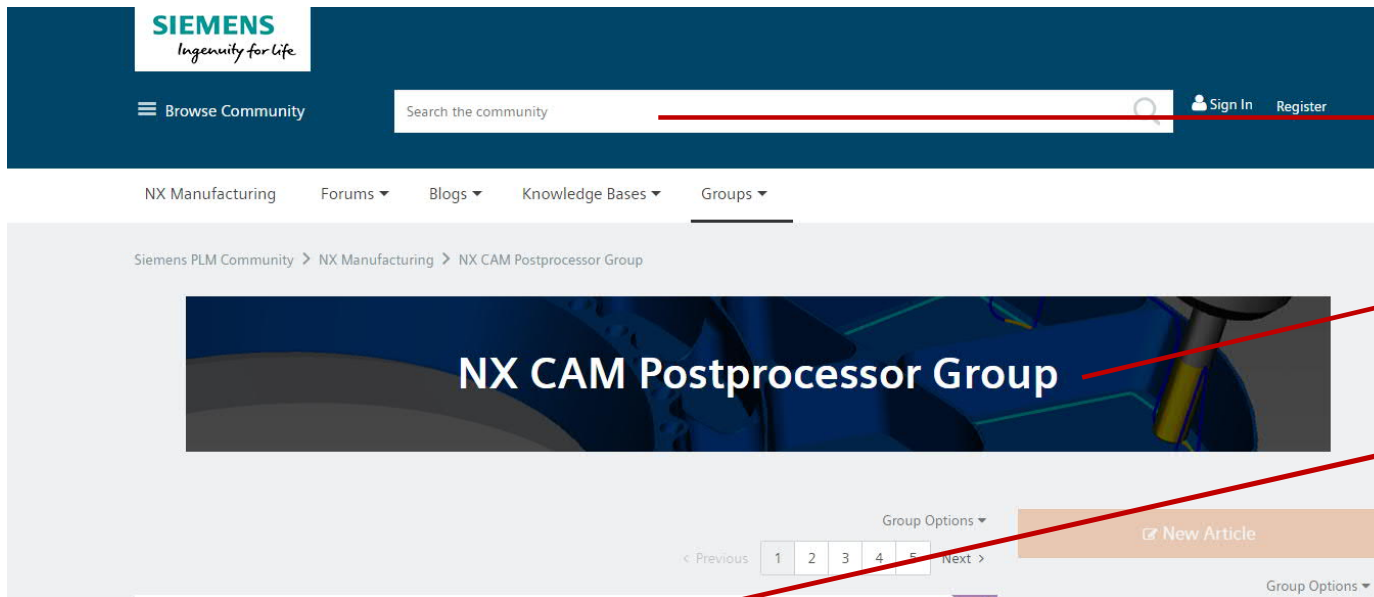
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Documentation
User Forum

NX Manufacturing Forum for all user questions about NX CAM, including Post Configurator:
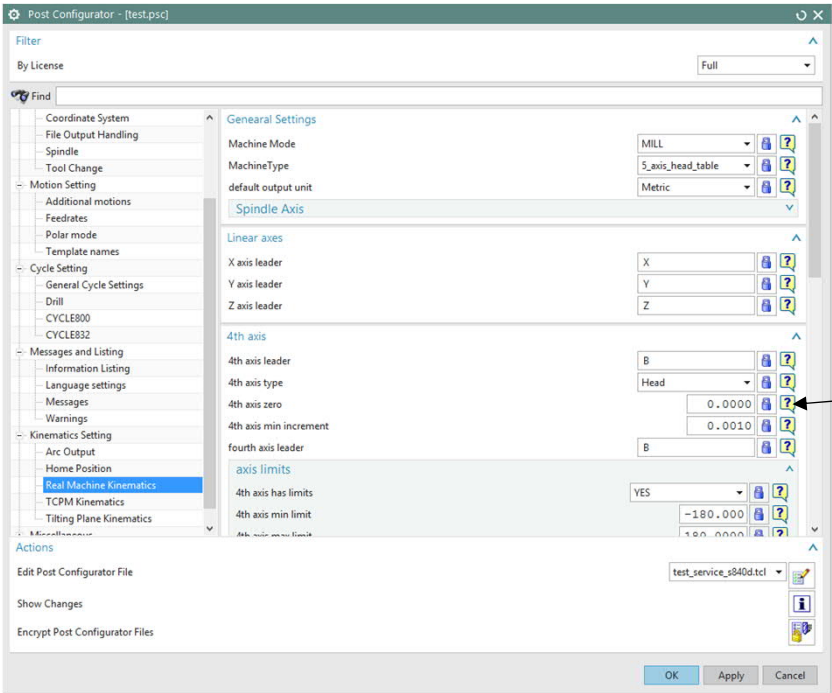http://community.plm.automation.siemens.com/t5/NX-Manufacturing-Forum/ct-p/part-manufacturing

– Search the community

– Discussion forum

– Latest Topics

Documentation
Context help

Context help

This offers a help description on the individual property.

Q&A

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Manufacturing Engineering Software

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