

# NX Post Configurator

## 008 – Layer I

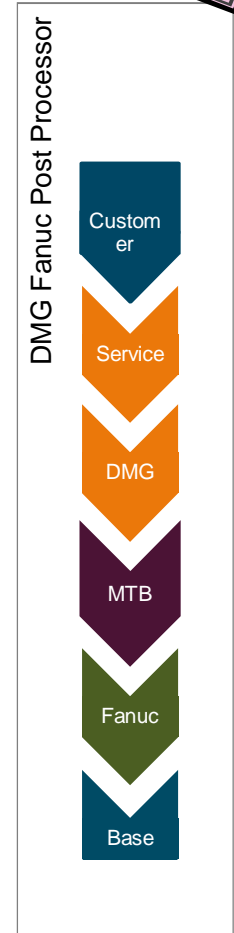
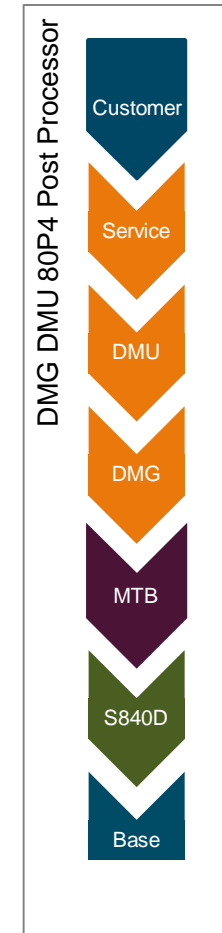
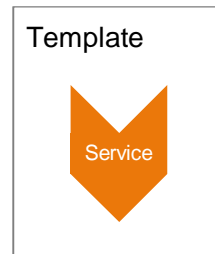
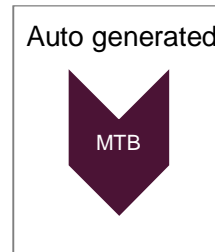
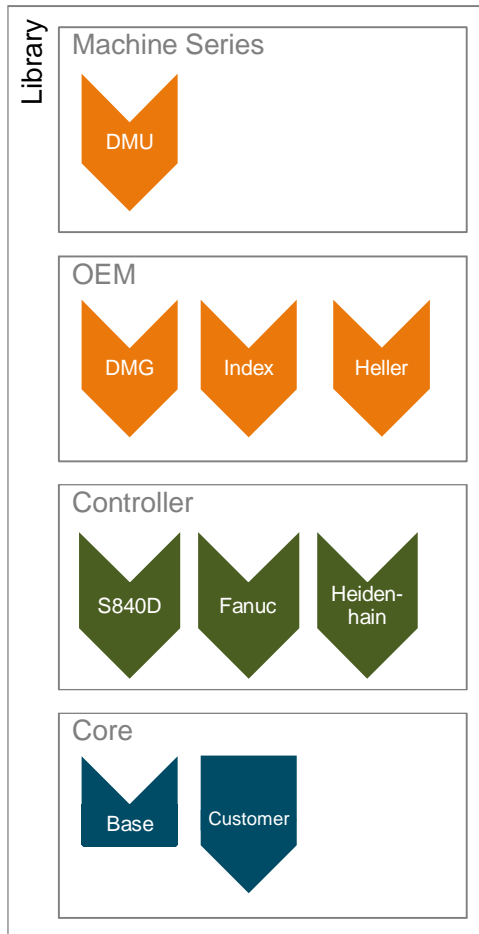
# Concept

## Standard Layers / OOTB Layers



# Concept

Layers to be combined



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# Approach concept of masterpost

Controller  
(Standard libraries)

Controller level:

- delivered by Siemens PL or own created Layer

Generic Layer  
(GUI, Custom Procedures,  
Eventhandler, Buffer, Entrys)

Manufacturer level:

- 2nd level contains all customization of posts from Post development, especially the graphics user interface, all this levels can be encrypted

Special functionality layer, e.g.  
additive

Machine level:

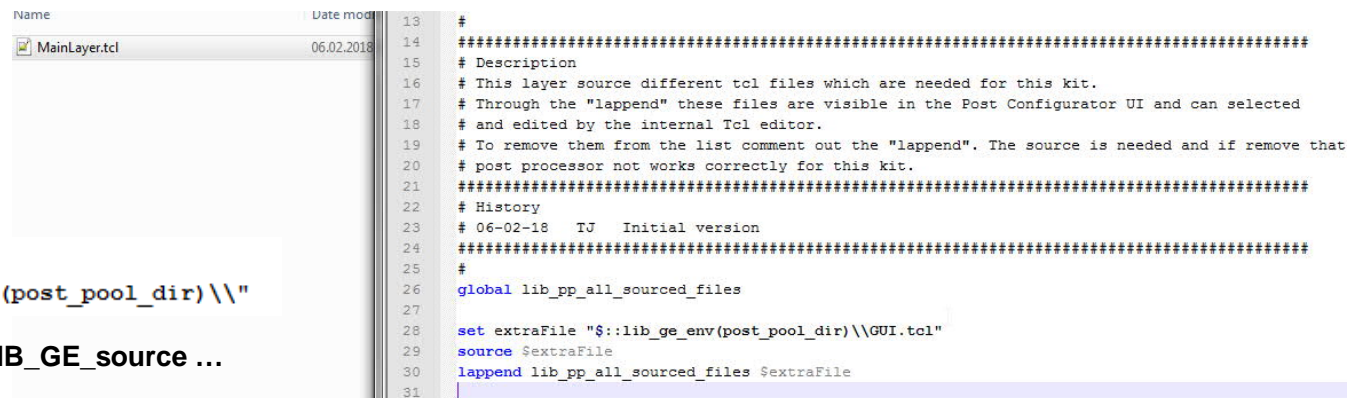
- 3rd level for special functionality, which are needed for some machine types

# Approach creating a masterpost

- Use a single post to create new functionality
  - Create new file in the post directory
  - Link it in the psc-file
  - Code and test with simple parts
  - Copy to the post\_template folder (custom environment is recommended)
  - Link it in the post\_registry.xml
  - Create a new post with the linked layer and test functionality
- Using a level with multiple files should contains a main-tcl in which are all files are sourced

```
# Sourcing of robotics standard pce-files
LIB_GE_source "rnr_sinumerik" "$::lib_ge_env(post_pool_dir)\\"
```

Use standard Post Configurator command LIB\_GE\_source ...



```
13 #
14 #####
15 # Description
16 # This layer source different tcl files which are needed for this kit.
17 # Through the "lappend" these files are visible in the Post Configurator UI and can selected
18 # and edited by the internal Tcl editor.
19 # To remove them from the list comment out the "lappend". The source is needed and if remove that
20 # post processor not works correctly for this kit.
21 #####
22 # History
23 # 06-02-18 TJ Initial version
24 #####
25 #
26 global lib_pp_all_sourced_files
27
28 set extraFile "$::lib_ge_env(post_pool_dir)\\GUI.tcl"
29 source $extraFile
30 lappend lib_pp_all_sourced_files $extraFile
31
```



## Add new Machine Level to the library



- Post Processor template library is stored under:  
NX\mach\resource\post\_configurator\post\_template\post\_registry.xml
- XML based, and can be extended
- Any PCE or Tcl file can be added as a new standard template level

### Syntax for new Machine Level:

```
<MACHINE>
  <Name>*name*</Name>
  <Path>${UGII_CAM_RESOURCE_DIR}post_configurator\post_template\controller\*controller*\machine\*new_machine_level file_name.pce*</Path>
  <Base_CTRL>*controller*</Base_CTRL>
</MACHINE>
```

<i>name</i>	The name for the new Machine Level.	Fanuc Sample Machine Level
<i>controller</i>	The name of the Controller it fits to.	Fanuc
<i>new_machine_level file_name</i>	The file name of the new Machine level.	machine_ootb_5ax_fanuc.pce

# Add new Manufacturer Level to the library



## Syntax for new Manufacturer Level:

```
<MANUFACTURER>
  <Name>*name*</Name>
  <Path>${UGII_CAM_RESOURCE_DIR}post_configurator\post_template\controller\*controller*\manufacturer\new_file_name_1.pce</Path>
  <Path>${UGII_CAM_RESOURCE_DIR}post_configurator\post_template\controller\*controller*\manufacturer\new_file_name_1.def</Path>
  <Path>${UGII_CAM_RESOURCE_DIR}post_configurator\post_template\controller\*controller*\manufacturer\new_file_name_1.cdl</Path>
  <Base_CTRL>controller</Base_CTRL>
</MANUFACTURER>
```

<i>name</i>	The name for the new Machine Level.	Fanuc Sample Machine Level
<i>controller</i>	The name of the Controller it fits to.	Fanuc
<i>new_file_name_1</i>	The file name of the new Manufacturer level.	oem_ootb_5ax_sinumerik

# To Do: Create the structure



It's recommended to separate functionality inside the Post for easier maintenance and to add special functionality

- GUI
- Procedures
- UDE Eventhandler
- Buffer/ EntryPoints
- Main Tcl

A layer should contains one def file, one cdl file and can be contained multiple Tcl-files

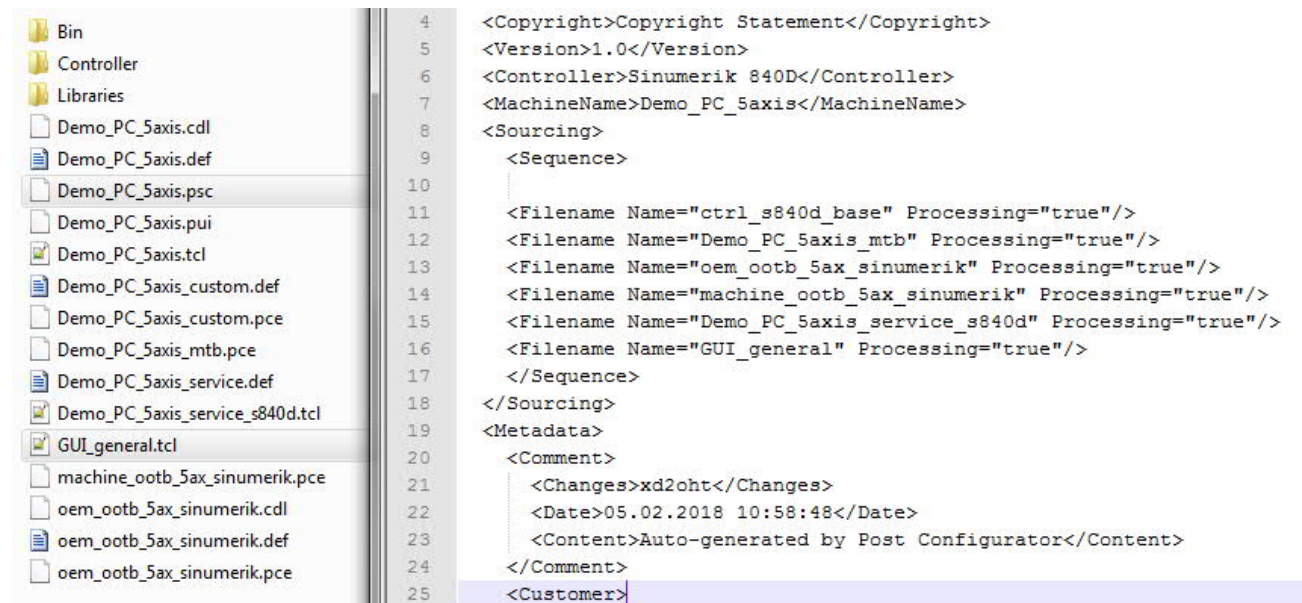
## Steps:

- Create all the files in sample Post to test functionality
- Add them into post\_registry.xml, e.g. Manufacturer Level
- Create the Post and test...Done



# Adding layers to existing post

- Psc file contains the order of sourcing files
- Multiple layers can be added
- Layers can be enabled/ disabled thru set the processing true/ false



The image shows a file explorer on the left and a code editor on the right. The file explorer displays a directory structure with folders 'Bin', 'Controller', and 'Libraries'. Under 'Libraries', there is a list of files including 'Demo\_PC\_5axis.cdl', 'Demo\_PC\_5axis.def', 'Demo\_PC\_5axis.psc' (selected), 'Demo\_PC\_5axis.pui', 'Demo\_PC\_5axis.tcl', 'Demo\_PC\_5axis\_custom.def', 'Demo\_PC\_5axis\_custom.pce', 'Demo\_PC\_5axis\_mtb.pce', 'Demo\_PC\_5axis\_service.def', 'Demo\_PC\_5axis\_service\_s840d.tcl', 'GUI\_general.tcl' (selected), 'machine\_ootb\_5ax\_sinumerik.pce', 'oem\_ootb\_5ax\_sinumerik.cdl', 'oem\_ootb\_5ax\_sinumerik.def', and 'oem\_ootb\_5ax\_sinumerik.pce'. The code editor on the right shows the content of the selected 'Demo\_PC\_5axis.psc' file. It is an XML-like structure with the following content:

```
4 <Copyright>Copyright Statement</Copyright>
5 <Version>1.0</Version>
6 <Controller>Sinumerik 840D</Controller>
7 <MachineName>Demo_PC_5axis</MachineName>
8 <Sourcing>
9   <Sequence>
10     <Filename Name="ctrl_s840d_base" Processing="true"/>
11     <Filename Name="Demo_PC_5axis_mtb" Processing="true"/>
12     <Filename Name="oem_ootb_5ax_sinumerik" Processing="true"/>
13     <Filename Name="machine_ootb_5ax_sinumerik" Processing="true"/>
14     <Filename Name="Demo_PC_5axis_service_s840d" Processing="true"/>
15     <Filename Name="GUI_general" Processing="true"/>
16   </Sequence>
17 </Sourcing>
18 <Metadata>
19   <Comment>
20     <Changes>xd2oht</Changes>
21     <Date>05.02.2018 10:58:48</Date>
22     <Content>Auto-generated by Post Configurator</Content>
23   </Comment>
24   <Customer>
```

## Q&A

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### Thomas Jenensch

Product Portfolio Lead NX CAM Infrastructure  
Manufacturing Engineering Software

Nonnendammallee 101 5. OG, Bauteil C  
D-13629 Berlin, Germany  
Tel. :+49 (30) 46777 535

[thomas.jenensch@siemens.com](mailto:thomas.jenensch@siemens.com)

[www.siemens.com/plm](http://www.siemens.com/plm)

Siemens Manufacturing Forum

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