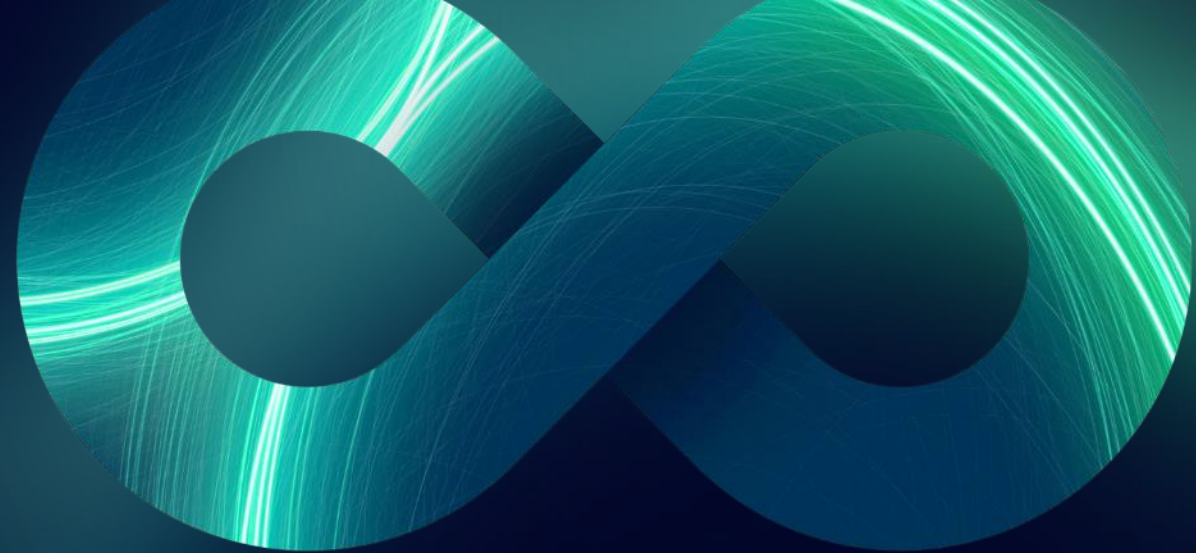


Realize
LIVE



NX Feature Templates

Scott Painter

Design and Manufacturing Application Engineer

Applied CAX

Design & Manufacturing Application Engineer



BACKGROUND

The first half of my career was focused on product design using 3D CAD applications and the second half on providing application support to end users by means of mentoring, issue resolution, and training.

EDUCATION & MILITARY

- Bachelor's degree in Physics from Western Illinois University
- Veteran - U.S. Army/U.S. Army Reserve Non-Commissioned Officer

EXPERTISE

Tools: NX, Teamcenter, Active Workspace

Technical: NX Installation, Configuration and Implementation, NX Reuse Library Development and Administration, NX Routing and Routed System Designer Configuration and Administration, NX Diagramming Library, NX Part Families, Advanced Surfacing & Work-around solution expert.

Functional: Customer Support, Training Development and Mentoring, Expert user level understanding of NX and CAD.

EXPERIENCE

Product Design 1996-2013: Automotive, Aerospace, Consumer Appliances and Electronics, and Sporting Goods

Application Engineering and Support 2014-Present: SpaceX, Boeing, Navistar, Moog Aerospace, and Applied CAX.

My background in product design and as an end user of CAD systems allows me to provide exceptional and personalized customer support. My real-world experience lends itself to being able to relate not only to a customer's needs, but the urgency in which they require a solution.

My unique blend of experiences from multiple industries has allowed him to become familiar with a wide range of the NX toolset. I enjoys digging into the "how and why" does the tool work more than most.

What is Applied CAx?



APPLIED CAx



A Siemens Software Partner built from a joint venture of Predictive Engineering (FEA consulting services) and Applied CAx, a systems integrator.

Focused on A&D and Renewable Energy, Applied was recognized as Siemens North American Partner of the Year: 2023, 2020, and 2016.

NX CAE FEMAP LS-DYNA STAR-CCM+ NX TEAMCENTER FIBERSIM PLANT SIM PROCESS SIM

- 5 simulation engineers (PhDs, MEs, PEs)
- FEA consultants
- CFD consultants
- Training for FEMAP & NX Nastran
- Training for LS-DYNA Implicit & Explicit

- 9 veteran Teamcenter architects
- 4 Senior NX Application Engineers
- Training for NX CAD/CAM & Teamcenter
- Deep design experience
- PDM experience

Clients we have helped

APPLIED CAX



Teamcenter PLM Implementation, NX
CAD – CAM, CFD and CAE support



Teamcenter PLM Implementation, Solid Edge
integration, training & workflows



Manufacturing process improvements, NX CAM
Training, CAE training & support



Teamcenter, NX CAD – CAM, CFD and CAE
support



CAE support & training, process standardization &
workflow development



Teamcenter PLM Implementation, NX CAD –
CAM, CFD and CAE support



CFD and CAE training and support



CAE training, mentorship & support

Teamcenter Customer:



Teamcenter PLM Implementation, NX CAD –
CAM, CFD and CAE support



Teamcenter PLM Implementation, NX CAD –
CAM, CFD and CAE support



Teamcenter, NX CAD – CAM, CFD and CAE
support



Teamcenter PLM Implementation, driving
best practices for design in NX CAD & NX
CAM manufacturing



Agenda

Introduction to NX Feature Templates

Benefits of NX Feature Templates

UDF's vs. Feature Templates

Feature Template Creation Overview

Demo: Using Product and Feature Templates to Create Multiple Assembly Configurations

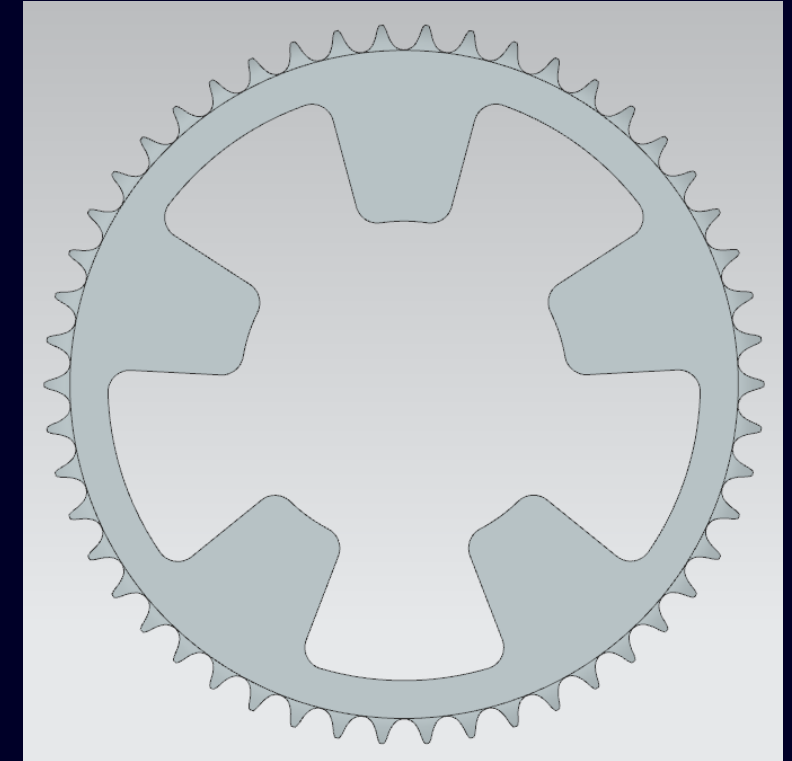
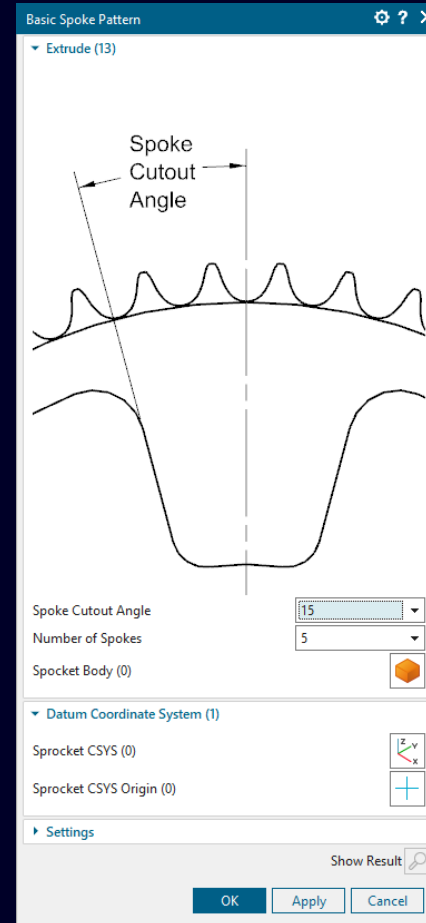
Summary

Q&A

Introduction to NX Feature Templates

What Are NX Feature Templates?

- Next generation of User-Defined Features (UDFs).
- Pre-defined features that can be added to model files.
- Useful for common, repetitive design features of a product.



Benefits of NX Feature Templates

Why Use NX Feature Templates?

- Increased Efficiency: Maximize reuse of CAD work and reduce design lead time.
- Consistency: Standard design features have a single source of truth and can be controlled.
- Increased Productivity: When properly configured, complex geometry can be applied to any model with minimal effort.
- Scalability: Parametric templates allow for the ability to easily configure templates to many different applications.



UDF's vs. Feature Templates

Our existing UDF's are good enough. Change my mind.

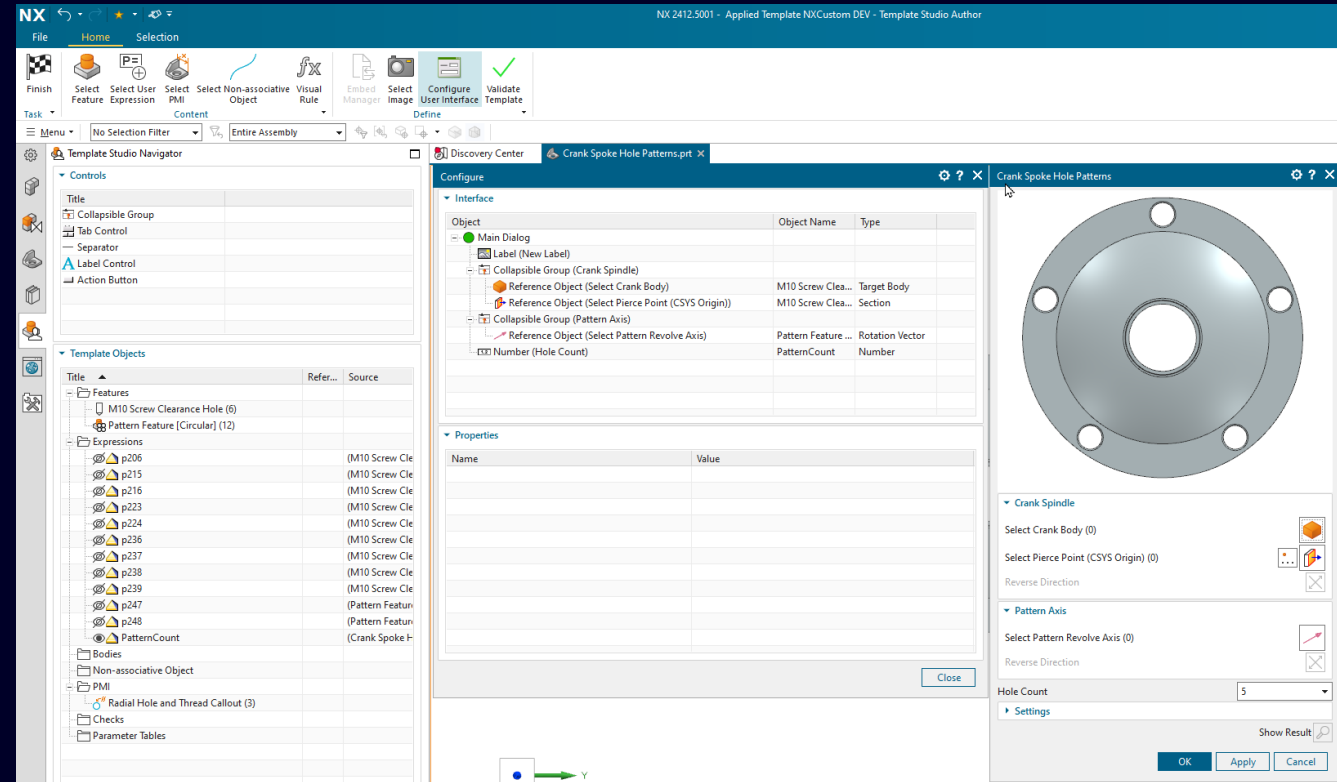
- UDF Conversion: NX will easily convert UDF's to Part Templates.
- Model-Based Definition (MBD): PMI can be included with the feature to reduce downstream efforts.
- Ease of Use: Improved, configurable user interfaces allow for easier adoption.



Feature Template Creation Overview

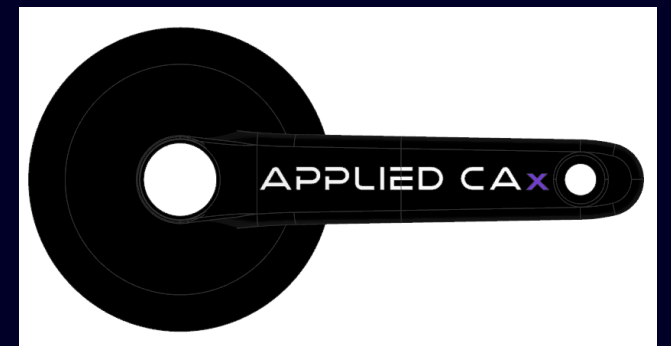
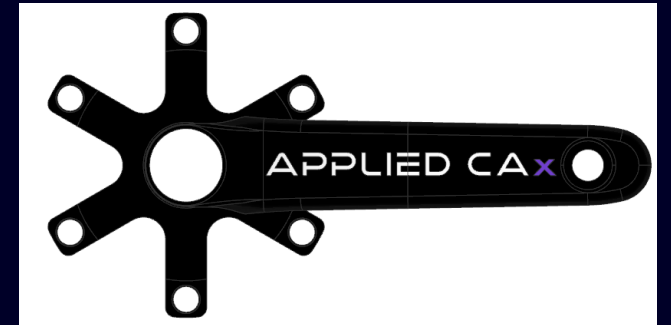
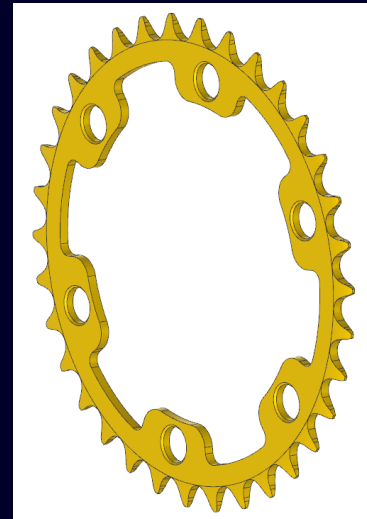
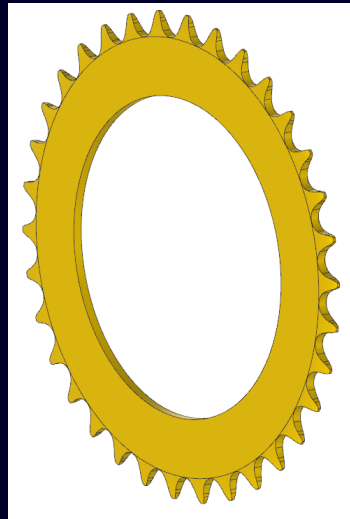
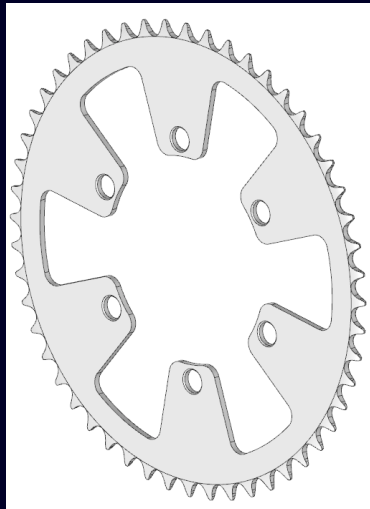
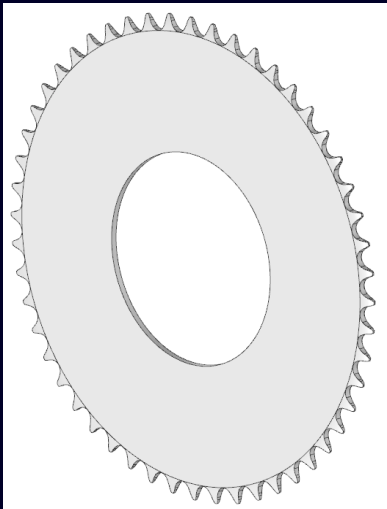
Configuring a Feature Template Overview

1. Create a Feature Template Library in the Reuse Library.
2. Create the model geometry.
3. Enter Feature Template Studio Author from NX.
4. Add Controls, Features, expressions and PMI from the Template Studio Navigator.
5. Use the Configure window to create the User Dialog Window for the feature template.
6. NX will save the Feature Template to the Reuse Library. Future edits will need to be done by opening the Feature Template from Studio Template Author.



Demo: Using Product and Feature Templates to Create Multiple Assembly Configurations

[View video on YouTube](#)



Summary

Feature Templates offer these benefits:

- Ensure design consistency by providing a single source of truth.
- Reduce development time by maximizing reuse of CAD and PMI.
- Allow for conversion of legacy UDF's.
- An improved User Interface for adding feature templates to parts.
- Can be combined with Product Templates to add flexibility.

Disclaimer

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