



Florida Local User Group
2008 FLUG Spring Conference
Building Toolbars in XM

Mike Elwell – Bentley Systems



Session overview

This session will feature an overview of the process of creating and storing custom interface components as part of a DGNLIB. We will go through the creation of element templates, tools, and tasks as part of making a truly “custom” MicroStation interface.

The “new” user interface

The MicroStation V8 XM Edition delivers many new and exciting enhancements including a new user interface. This new interface changes the way we create, deliver, and access the tools within MicroStation. Tools are now stored as part of a task, thus creating a “task-based” interface.

A custom interface may now be composed of element templates, MicroStation tools, custom tools, and tasks. These components are delivered as part of a DGNLIB.

The role of the DGNLIB

The concept of a DGNLIB came along with the introduction of the first version of MicroStation V8. As each new generation of the V8 software was released, DGNLIB's became increasingly important. This has continued with the MicroStation V8 XM Edition. A DGNLIB may now contain:

- » Custom interface components
- » Level definitions
- » Text, dimension, and multi-line styles
- » Cell definitions
- » Linestyles
- » Project Explorer link sets
- » and more...

The basics

Let's start with the basics...

What is a task? A task is a set of tools grouped to facilitate a particular workflow. The tools that are grouped into a particular task may consist of standard MicroStation tools (delivered tools), custom tools, or a mixture of both types of tools. An example might be a planning task or a road construction task.

What are element templates? Element templates are named sets of element properties that may be used to set the active settings for element placement or applied to existing elements.

- An improvement on Settings Manager
- May be used “stand alone” by selecting a task from the task list
- May be incorporated into a custom tool

A “task-based” interface

A “task-based” interface is an interface that uses a set of element templates and tasks to deliver a custom MicroStation environment.

A task-based interface may consist of:

- One or more tasks
- Element templates
- MicroStation tools
- Custom tools
- Menu items
- Tool boxes
- Custom tool boxes

There are several examples of different tasks delivered as part of the new workspace examples.

Delivering the interface

The task-based interface is created, stored and delivered through a DGNLIB. This DGNLIB must be configured as an available DGNLIB through the MS_DGNLIBLIST configuration variable.

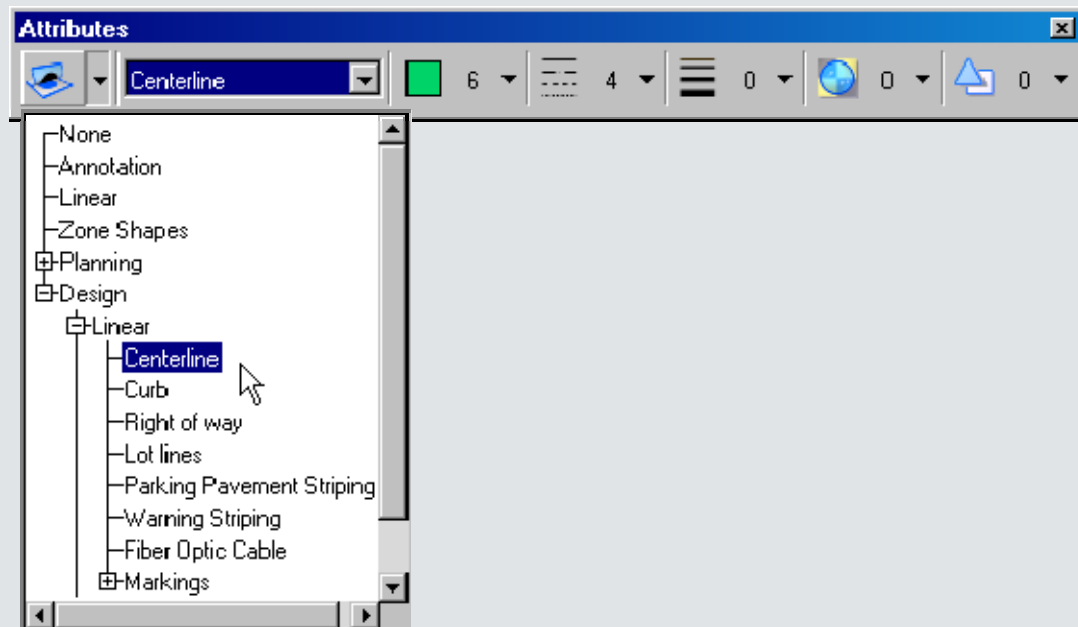
This variable may be set in any configuration file (UCF, PCF, site level, etc.) desired.

Creating the DGNLIB

- A DGN library, sometimes referred to as a DGNLib, contains data that is shared throughout files and among users. These shared resources consist of things that you define and name, which are used as standards by members of a workgroup.
- Interface customization may be delivered in the same DGNLIB along with levels and text styles, or in a separate DGNLIB. The configuration variables `MS_GUIDGNLIBLIST` or `_USTN_SYSTEM_GUIDGNLIBLIST` allow you to point to files that contain customizations users will see.

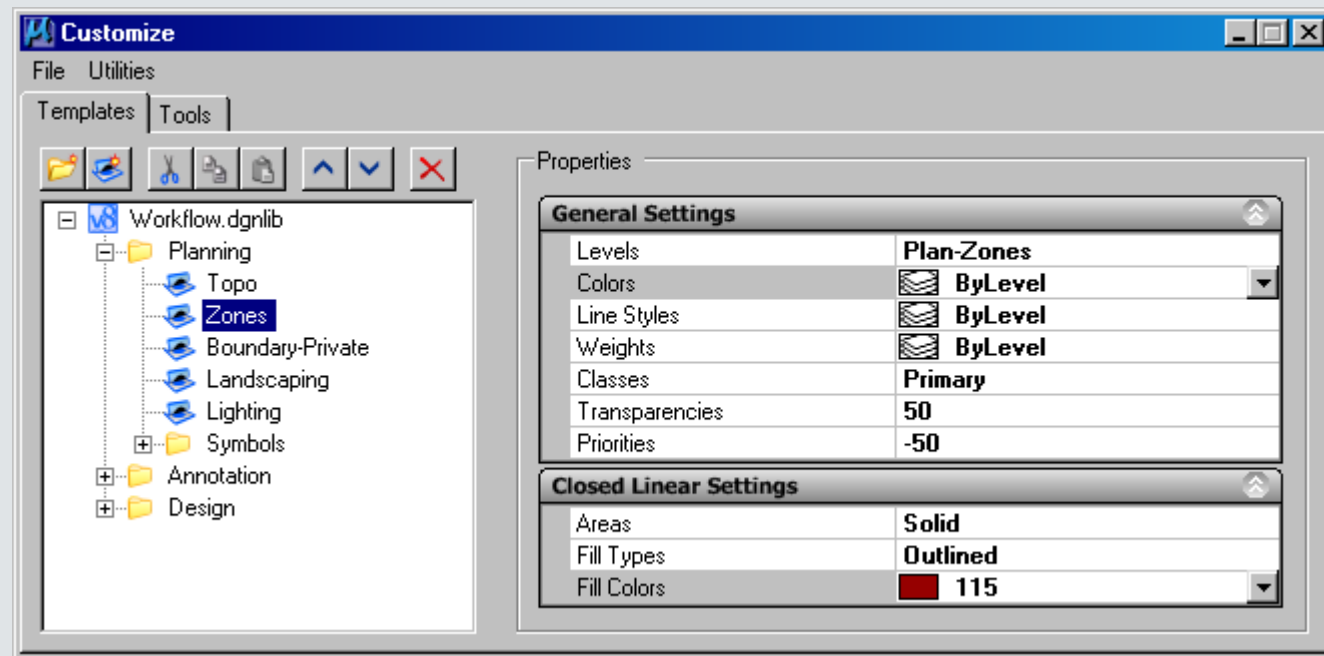
Element templates

- An element template is a list of element attributes. The primary purpose of an element template is to enforce consistency when drawing. Its secondary purpose is finding elements with matching attributes. Templates may set:
 - Level
 - Color
 - Line code
 - Line style
 - Transparency
 - Priority
 - and much more...



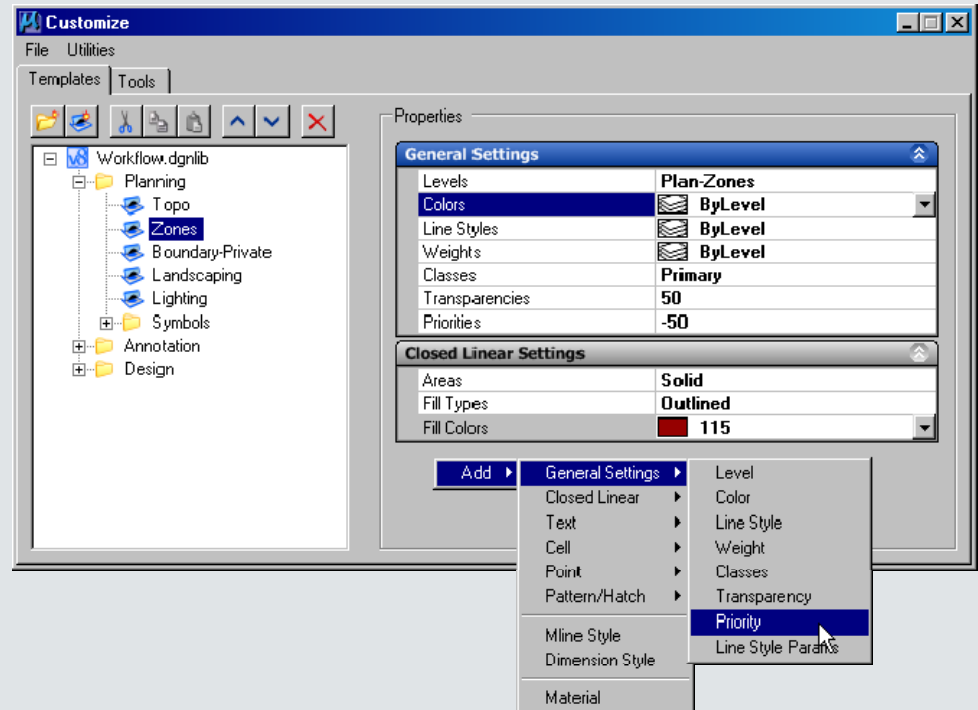
Creating element templates

- Templates are stored in hierarchical groups within a DGN file. Generally, a DGN library is created (or an existing DGN library is used) to hold standard templates.



Creating element templates

- To create an element template:
Workspace > Customize
- Many new settings may be applied to elements when creating an element template.
- Right-click to add settings.



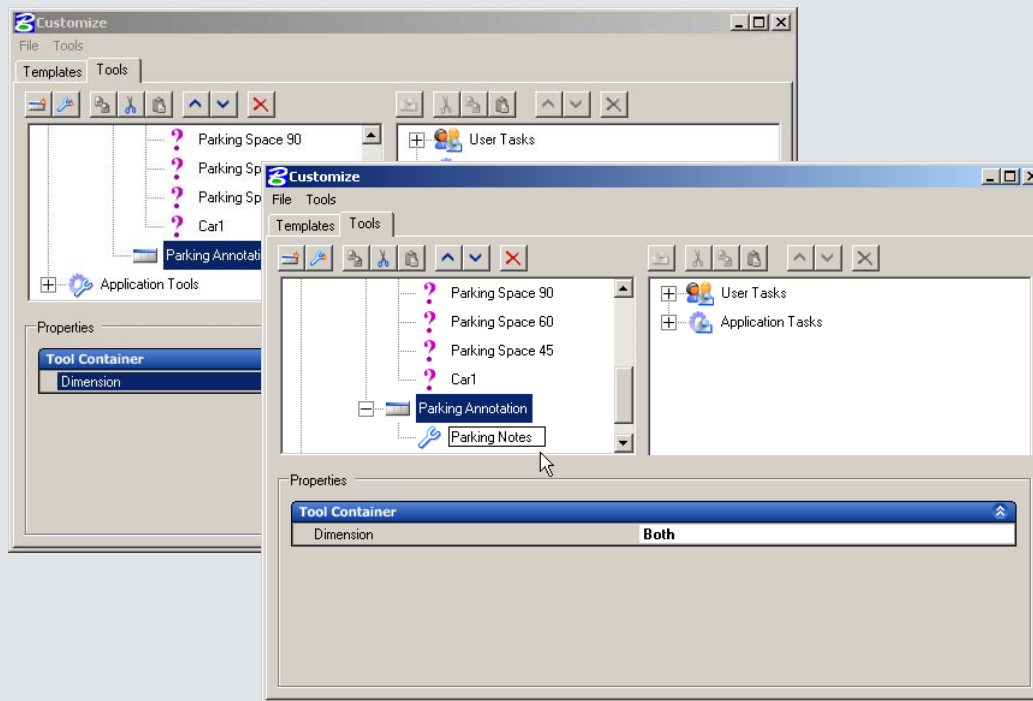
Creating tools and tool boxes

- To create a toolbox, activate the Tools tab on the Customize dialog box and click the Add Toolbox button.

Add Toolbox

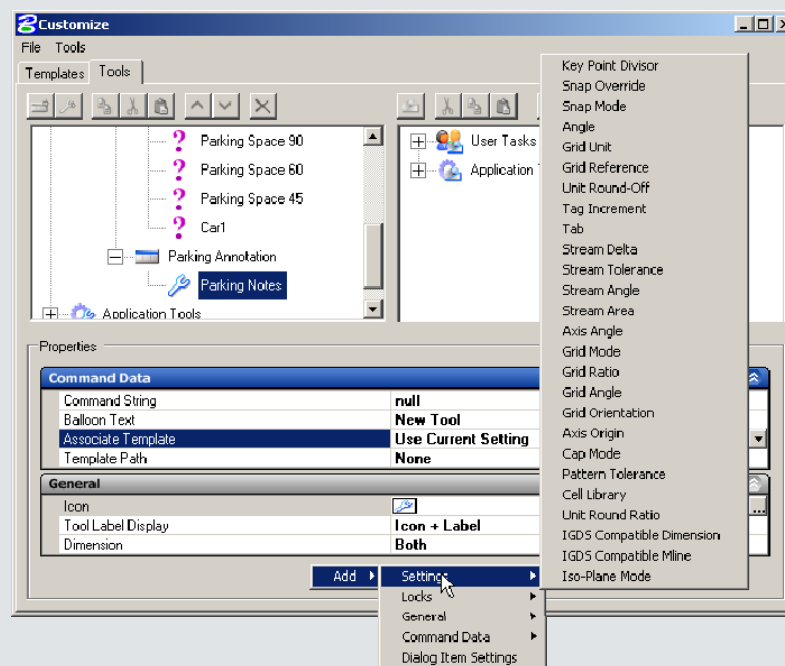


Add Tool



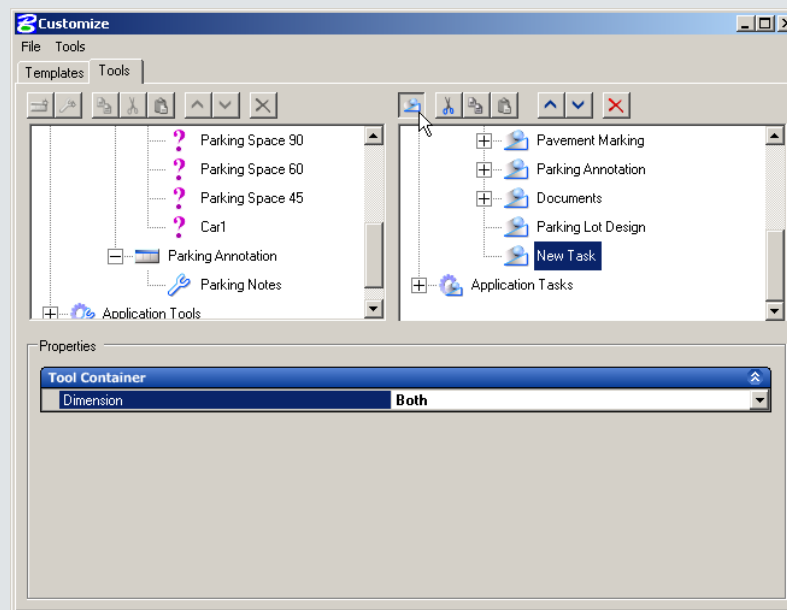
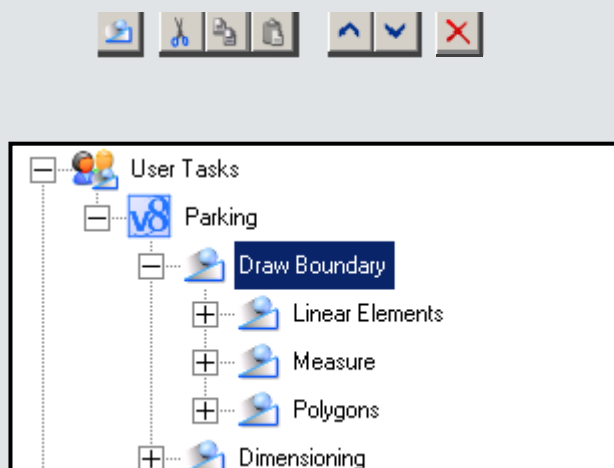
Create the tools

- Explore the right-click!
- There are many new settings including the ability to add a template to the new tool.



Create a task and add tools

- Create a task and add toolboxes and tools to it.



What the task can do...

- The limit to what a task may be used for is limited only by your imagination. The following are some examples of what tasks may be assigned to do:
 - Set symbology settings
 - Activate drawing tools
 - Place cells
 - Attach reference files
 - Group tools to follow a particular workflow
 - Open documents
 - Call a web page
 - and more...

Questions?