



Configurations, DGNLib, and Workspaces

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```
workmode.cfg - Notepad
File Edit Format View Help
# _USTN_CAPABILITY_DGN      => capabilities apply only when in v8
workmode
# _USTN_CAPABILITY_DWG     => capabilities apply only when in DWG workmode
# _USTN_CAPABILITY_V7     => capabilities apply only when in V7 workmode
#
# This configuration contains specific items to be enabled/disabled
# and each item overrides the one set by default MS_WORKMODE.
#
# valid capability configuration variables can be found in file
# capability.list. Please do not make any change in that file!
#
# Use a + prefix to add a capability, and - prefix to remove it.
#
# For example:
#
# _USTN_CAPABILITY < -CAPABILITY_COLORTABLE
# _USTN_CAPABILITY < +CAPABILITY_PARASOLID
#
# will disable color tables and enable parasolid in any workmode.
#
# This also works in workmode dependent capabilities. For example:
#
# _USTN_CAPABILITY_DWG < +CAPABILITY_PARASOLID
#
# will enable parasolid in DWG workmode. Keep in mind that a workmode
# dependent capability is only meant to override the default capability
# in that workmode. It does not affect other workmodes in any way.
#
# NOTE: Only use '<' or '>' to append or prepend capability masks that
# you wish to use. Using '=' after the initial definition below
# will override any previous definition, which may result in
# undesirable or unpredictable behavior.
#
#-----
# Adjustments to DWG workmode are defined here
#
_USTN_CAPABILITY_DWG < +CAPABILITY_MODEL_DELETE_DESIGN
#-----
# Saved views are supported for Sheets in MicroStation XM.
#
_USTN_CAPABILITY_DWG < +CAPABILITY_SAVEDVIEWS_CREATE_FOR_SHEETS
_USTN_CAPABILITY_DWG < +CAPABILITY_SAVEDVIEWS_APPLY_TO_SHEETS
_USTN_CAPABILITY_DWG < +CAPABILITY_SAVEDVIEWS_DELETE_FOR_SHEETS
_USTN_CAPABILITY_DWG < +CAPABILITY_SAVEDVIEWS_PROPS_FOR_SHEETS
_USTN_CAPABILITY_DWG < +CAPABILITY_SAVEDVIEWS_UPDATE_FOR_SHEETS
#-----
# Cell pattern can be translated to DWG hatch pattern.
#
_USTN_CAPABILITY_DWG < +CAPABILITY_CELLPATTERN
#-----
# AutoCAD 2006 has a new dimension type: arc length dimension that can
# measure arc length, while other angular dimensions still can't.
#
_USTN_CAPABILITY_DWG < +CAPABILITY_DIMENSION_ARC_LENGTH
#-----
# Newer releases of AutoCAD supports relative path for xref's.
#
_USTN_CAPABILITY_DWG < +CAPABILITY_REF_SAVE_PATH_REL
#-----
# AutoCAD 2007 has new dimstyle variables to control fixed extension
```

Workspaces – In General

- A workspace is a custom MicroStation environment or configuration. When you select a workspace you customize MicroStation for a specific discipline, project, or task.
- MicroStation Workspaces have many uses.
 - Increase productivity.
 - Increase accuracy of CAD standards.
 - Project specific settings.
 - Discipline specific settings.
 - Many others uses.

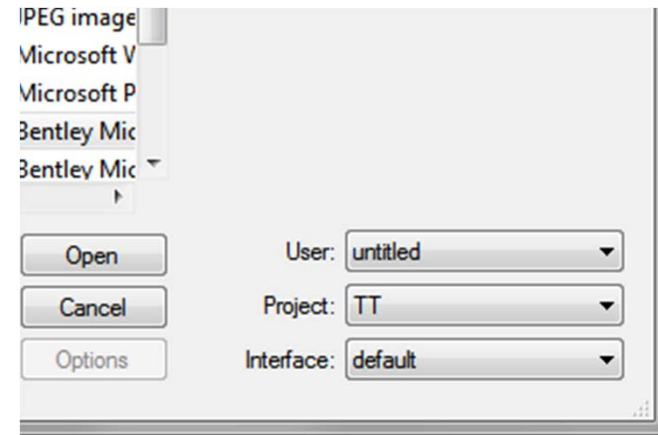


Workspaces – Concept

- Levels
- Configuration Files
- Variables

Workspaces - Concept

- Locations
 - C:\Program Data\Bentley\08.11.09.85\WorkSpace\
 - C:\Program Files (x86)\Bentley\08.11.09.85\MicroStation\config
- Levels
 - System = 0
 - Applications = 1
 - Site = 2
 - Project = 3
 - User = 4



- Warning – Do not change levels 0 and 1!!!

Workspaces – Process

System (0):

[...\MicroStation\config\mslocal.cfg]

[...\MicroStation\config\msdir.cfg]

[...\MicroStation\config\msconfig.cfg]

[...\MicroStation\config\system*.cfg]

- APPLICATION (1):

[...\MicroStation\config\app*.cfg]

- SITE (2):

[...\WorkSpace\standards*.cfg]

[C:\Users\<<name>>\AppData\Local\Bentley\MicroStation\8.11\yvYVL3krGOoSIKC8AY0Y-w\prefs\dfiltuser.cfg]

- USER (4):

[...\WorkSpace\users\<<NAME>>.ucf]

- PROJECT (3):

[...\WorkSpace\projects\examples\<<NAME>>.pcf]

_USTN_WORKSPACEROOT location of SITE, PROJECT, USER

Workspaces – UCF versus UPF

- UCF is a renamed cfg file. Ascii based can be edited in notepad
- UPF binary file storing user specific settings that MicroStation uses. User preferences are no longer stored in a single UPF file but instead multiple binary files. Can not be shared between versions.

Rule#1:

Do not manually delete UPF files. Always run “ustation.exe –restoredefaults”

Workspaces - Variables

- Syntax
 - `<VARIABLENAME> <operator> <new_value> # comment`
- Types
 - Path configuration variables tell the product where (in what directory) to find files.
 - Directory configuration variables tell the product where to save files.
 - Filename configuration variables specify a file to use for a particular purpose.
 - Keyword configuration variables specify certain default settings.

Simple; Name = John #This is a variable for name

Workspaces - Variables

- Syntax

- <VARIABLENAME> <operator> <new_value> # comment

- Operators

- "=" - Assign new_value to VARIABLENAME. Overrides all previous definitions at or below the current configuration variable level.

- ":" - Assign new_value to VARIABLENAME only if that variable does not already exist.

- "+" - Append new_value to current value of VARIABLENAME. Uses a space as a separator.

- ">" - Append directory or file lists defined by new_value to a variable definition that defines a path. If no current value for VARIABLENAME exists, this is equivalent to the = operator. Otherwise, it appends a path separator character, a semicolon (;), and then new_value.

- "<" - Prepend directory or file lists defined by new_value (to the beginning of) a variable definition that defines a path. If no current value for VARIABLENAME exists, this is equivalent to the = operator. Otherwise, it prepends new_value followed by a path separator character, a semicolon (;).

Workspace – Examples variables

USER:

- MS_MAINMENUDOCKINGBESIDE = 1
- MS_SNAPMODE_SOURCE = 1
- MS_PROTECTION_ENABLE = 1

ADMIN:

- _USTN_DISPLAYALLCFGVARS = 1
 - “_” variables are hidden by default
- _USTN_PREFNAMEBASE =
\$_USTN_HOMEPREFS\$(USERNAME)

Workspaces - Workmodes

- MS_WORKMODE : DGN # File compatibility work mode
 - Work Mode Settings
 - V7 # Restriction
 - DGN # Capacity
 - DWG # Restriction
- _USTN_CAPABILITY # => capabilities apply in all workmodes
 - _USTN_CAPABILITY_DGN => capabilities apply only when in V8
 - _USTN_CAPABILITY_DWG => capabilities apply only when in DWG
 - _USTN_CAPABILITY_V7 => capabilities apply only when in V7

Workspace – Workmode CAPABILITY

- `_USTN_CAPABILITY < -CAPABILITY_COLORTABLE`
 - `_USTN_CAPABILITY < +CAPABILITY_PARASOLID`
-
- `CAPABILITY_LEVEL_LIBRARY_ATTACH`
 - `CAPABILITY_LEVEL_LIBRARY_DETACH`
 - `CAPABILITY_LEVELS_CREATE`
 - `CAPABILITY_TEXTSTYLE_ALLOW_CREATE`
 - `CAPABILITY_TEXTSTYLE_ALLOW_DELETE`
 - `CAPABILITY_LEVELS_GLOBALDISPLAY`
 - `CAPABILITY_LEVELS_GLOBALFREEZE`

Workspaces - Advanced

- Preprocessor directives control the way that the product processes configuration variable files
- %if <expression> - Execute the following lines if expression is true. Expressions can be composed of Boolean combinations of:
 - defined () - true if variable is defined
 - exists () - true if file exists
 - || - OR
 - && - AND
 - == example \$(USERNAME) == JOHN - equality
- %include<filename> - Include (process) another configuration variable file
- %else - Execute the following lines if the last %if was false.
- %elif <expression> - Execute the following lines if the last %if was false and expression is true.
- %endif - End of conditional block.
- %error <string> - Print string and exit MicroStation.
- %undef <varName> - Undefines and deletes the configuration variable varName
- %lock <varName> - Locks the configuration variable to its current value.

Workspaces - Directives

- Test to see what version is running

```
%if defined (_VERSION_8_11)
    _USTN_WORKSPACEROOT = C:\Users\john.frampton\Desktop\UG\WRKSPCV811/
%elif defined (_VERSION_8_5)
    _USTN_WORKSPACEROOT = C:\Users\john.frampton\Desktop\UG\WRKSPCV85/
%else
    _USTN_WORKSPACEROOT = C:\Users\john.frampton\Desktop\UG\Workspace/
%endif
```

Rule #2:

Never hard code a path more than once, "C:\Users\john.frampton\Desktop\UG\" needs to be defined as a variable

```
my_Workspaces = C:\Users\john.frampton\Desktop\UG/
_USTN_WORKSPACEROOT = $(my_Workspaces)Workspace/
```

Workspaces - TIPS

- - Debug
- EXPAND
 - ECHO
 - SET
 - SETSAVE
- Always end directories with /
- Always end files with, never write below ##
<space, enter)

<space, enter)

DGN Libraries – aka DGNLib

- Store
 - Cells
 - Levels
 - Display Styles
 - Level filters
 - Line styles
 - Multi-line styles
 - Text styles
 - Dimension styles
 - Detailing symbol styles
 - Print styles
 - Named Expressions
 - Materials
 - Standards Checker settings
 - Element templates
 - Menu customizations
 - Project Explorer link sets
 - Customized tools, toolboxes, icons, and tasks

Note: These have Internal and External dependencies

DGNLib's

- Do not replace .rsc files
- Still needed for:
 - Fonts
 - Editing Custom Line Styles
- Processed
 - Alphabetically
 - First in WINS!!!
 - Opposite of RSC



SEEDfiles

- Store
 - Working Units
 - Design History
 - Seed Models
 - Default reference attachments

Controlled by variables

- MS_DGNLIBLIST or _USTN_SYSTEMDGNLIBLIST
 - specifies the list of DGN libraries that are available for use
- MS_GUIDGNLIBLIST or _USTN_SYSTEMDGNLIBLIST
 - Directories containing DGN library files that store tool, toolbox, task, menu, and icon customizations.



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