

# Mid Continent MicroStation Community 2003 Winter Conference



## General Workspace Setup

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## General Workspace Setup

- What is a workspace?
- What can a workspace do for you?
- Workspace components.
- Workspace configuration levels & types.
- Workspace configuration file syntax.
- Workspace variable assignment operators.
- Workspace Debugging.



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## What is a Workspace?

A workspace is a custom MicroStation environment or configuration. When you select a workspace you customize MicroStation for a specific discipline, project, or task.



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## What can a Workspace do for you?

MicroStation Workspaces have many uses.

- Increase productivity.
- Increase accuracy of CAD standards.
- Project specific settings.
- Discipline specific settings.
- Many others uses.



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## Workspace Components

1. User
2. Project
3. Interface
4. Style
5. (User) Preferences



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## Workspace User

This component in effect points to the active workspace's Project and Interface components. The user name identifies the **user configuration file** (.ucf) in Bentley's "Workspace\users" directory.



## Workspace Project

A project consists of customized data files, such as cell libraries and line style libraries, identified by configuration variables in the **project configuration file** (PCF). The data files in the sample projects provided with MicroStation are delivered as **modules**, subdirectory trees under Bentley's "Workspace\projects\examples" directory.



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## Workspace Interface

A Workspace Interface can be customized to help users perform specific tasks. Examples are custom tool boxes and tool frames as well as custom pull-down menu items.

(defined in modification resource files in subdirectories under Bentley's "Workspace\interfaces\MicroStation" directory).



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## Workspace Style

MicroStation either opens a Status Bar or Command Window.

NOTE: Command Window not supported in MicroStation V8



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## Workspace User Preferences

Customized user preference files store many settings for the Workspace. These settings are defined in a user preference resource file (".upf") in Bentley's "Home\prefs" directory.



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## Workspace Components Shown @ MicroStation Manager



**Workspace**

User:	Road	▼
Project:	HQ01-00001	▼
Interface:	GSRoberts	▼
Style:	Status Bar	▼



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## Understanding Configurations

MicroStation uses **configuration variable files** to get **values** for settings that vary from system to system and from user to user.

From a development standpoint, MicroStation configuration variables are simply a mechanism for “expanding” (translating) one text string into another.



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## Understanding Configurations

Each configuration variable has two parts — its name and its definition. Variable definitions can be literal strings or combinations of strings and references to other variables.

Example:

```
CLIENT_DIR = s:/client_A/
```

```
MS_CELL = $(CLIENT_DIR)cell/
```



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## Understanding Configurations

When MicroStation needs the value of a variable, it looks in the **variables table** (kept in memory) to find the definition.

If the variable cannot be found, it then attempts to find a system-level environment variable of the same name.



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## Understanding Configurations

In the Windows operating system, the **system-level environment variables** are defined using the "System" utility in the Control Panel or the SET command.



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## How Configuration Variables Process @ Start-up

1. All "system-level" configuration variable files (in MicroStation's "config\system" directory).
2. All "application-level" configuration variable files (in MicroStation's "config\appl" directory).
3. All "site-level" configuration variable files (in Bentley's "Workspace\standards" directory).
4. The "user-level" configuration variables (in Bentley's "Workspace\users" directory).
5. The "project-level" configuration variables (in Bentley's "Workspace\projects" directory tree).



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## How MicroStation Determines (Resolves) Configurations

- The user (level 4)
- The project (level 3)
- The site (level 2)
- The application (level 1)
- The system (level 0)



## Types of Configurations

- PATH configuration variables tell MicroStation where (in what directory) to find files. MS\_DEF variable is a path variable.
- DIRECTORY configuration variables tell MicroStation where to save files. MS\_PLOTFILES is a directory variable.



## Types of Configurations

- FILENAME configuration variables specify a file to use for a particular purpose. MS\_DESIGNSEED is a filename variable.
- KEYWORD configuration variables specify certain default settings. MS\_LINKTYPE is a keyword variable. The possible values or "keywords" are "XBASE," "DMRS," "IX," "ORACLE," and "RIS."



## Configuration Variable File Syntax

- # - comment
- % - preprocessor directive
- Variable names can contain only alphanumeric characters (A-Z, 0-9) and must be at least two characters long.
- not case sensitive



## Configuration Variable File Syntax

- File path names should be entered using the forward slash (/)
- Directory definitions should end with a trailing forward slash.
- Nearly all variable names used by MicroStation begin with "MS\_" or "\_USTN\_."



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## Displaying all Configuration Variables

By default variables whose names begin with an underbar ( \_ ) are not displayed in the Configuration Variables dialog box. The following variable can be used to display all variables.

```
#----- Display All Configurations -----#  
_USTN_DISPLAYALLCFGVARS = 1
```



## Variable Operators

"=" - Assign "new\_value" to "VARIABLENAME".

":" - 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.



## Variable Operators

">" - 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".



## Variable Operators

"<" - "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 (;).



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## Main Workspace Configuration Variable

`_USTN_WORKSPACEROOT` is used set all workspace related path variables. This variable is set from the `C:\Bentley\Program\MicroStation\config\msconfig.cfg` file which is the first configuration file loaded.

The default path is `C:\Bentley\Workspace\`



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## Setting Up Site Standards

- `_USTN_SITE` variable is used to set site level standards.
- The default location is `$(_USTN_WORKSPACEROOT)standards/` which expands to `C:\Bentley\Workspace\standards\`
- MicroStation loads all files with a `cfg` file extension found in this directory. The default is `standards.cfg`



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## Setting Up Project Standards

- `_USTN_PROJECT` variable is used to set the location of project data & project configuration files (.pcf).
- The default location is `$(_USTN_WORKSPACEROOT)projects/` Which expands to `C:\Bentley\Workspace\projects`
- All pcf files found in this directory are displayed in the MicroStation Manager (workspace section – project option).



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## Setting Up User Standards (Discipline)

- `_USTN_USER` variable is used to set the location of user configuration files (.ucf).
- The default location is `$(_USTN_WORKSPACEROOT)users/` which expands to `C:\Bentley\Workspace\users\`
- All ucf files found in this directory are displayed in the MicroStation Manager (workspace section – user option).



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## Interface Variables

- `_USTN_USERINTROOT` variable is used to set the location of root interface directory. The default is `$_USTN_WORKSPACEROOT)interfaces/` which expands to `C:\Bentley\Workspace\interfaces\`
- `_USTN_USERINT` variable is used to set the location of product specific Interface folders. The default is `$_USTN_USERINTROOT)$(ENGINE_NAME)/` which expands to `C:\Bentley\Workspace\interfaces\MicroStation\`



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## Debugging Workspace

Append `-debug` to the end of the target field in the MicroStation program item's properties dialog box (Shortcut Tab). This place a `msdebug.txt` file in the current directory (Start in Field).



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Questions?

