**3MF Editor Command Line Interface**

The 3MF Editor CLI Interface allows schema validation and structure checks of 3MF files without needing to interact directly with the GUI interface. 3MF files to be analyzed, including lists of files to be processed, may be located in any directory. However, the working directory when running the CLI must be the subdirectory that the JAR executable file is located in for the following reasons:

* The 3MF Editor properties file is read to obtain the location of the schema and various other values not controlled by CLI flags
* File validation results are written out to the well-known subdirectory “cliResults” located below the working directory. Each 3MF file analyzed generates an html and XML result file. A special file name “failures.html” contains links to any test results that contain failures or warnings
* At the bottom of links in failures.html is a link to the aggregate XML results file, named XmlAggregate\_<DateTime>.xml. This has a complete set of XML results and failure data for every 3MF validated during the XLI run.

The enumerations for the XML attributes are as follows:

* result = pass, fail, warn, n/a
* issueID = As shown in the StructureErrorsAndWarnings spreadsheet. Schema errors use "SC\_000"
* severity = critical, high, medium, low, info
* class = schema, structure
* type = As shown in the StructureErrorsAndWarnings spreadsheet

Example XML Output is as follows:

<?xml version="1.0" encoding="UTF-8" standalone="no"?>

<TestResults dateTime="2017-05-18T11:19:55Z">

<TestResult dateTime="2017-05-18T11:19:55Z" file="M\_PC\_301\_01.3mf" result="Pass"/>

<TestResult dateTime="2017-05-18T11:19:55Z" file="M\_PC\_301\_02.3mf" result="Pass"/>

<TestResult dateTime="2017-05-18T11:19:58Z" file="pyramid\_all\_ResourcesBasematerials out of order.3mf.bak" result="Fail">

<PrimaryIssue class="structure" issueID="ER\_102" severity="high" type="resource ordering">basematerials appeared again after other resources were defined in file: /3D/3dmodel.model. The basematerials should appear first in resources.</PrimaryIssue>

<Issue class="structure" issueID="ER\_104" severity="moderate" type="no default material">Triangle with p1=1 and pid=1 in file: /3D/3dmodel.model with object id: 14 has p1 and pid defined but does not have the pid or pindex defined in the object.</Issue>

<Issue class="structure" issueID="ER\_104" severity="moderate" type="no default material">Triangle with p1=1 and pid=1 in file: /3D/3dmodel.model with object id: 14 has p1 and pid defined but does not have the pid or pindex defined in the object.</Issue>

<Issue class="structure" issueID="ER\_104" severity="moderate" type="no default material">Triangle with p1=2 and pid=1 in file: /3D/3dmodel.model with object id: 14 has p1 and pid defined but does not have the pid or pindex defined in the object.</Issue>

<Issue class="structure" issueID="WR\_007" severity="info" type="orphaned item">multiproperties with id: 12, in file: /3D/3dmodel.model, does not appear to have been used.</Issue>

</TestResult>

</TestResults>

The PrimaryIssue is determined by the ordering of errors as shown in the StructureErrorsAndWarnings spreadsheet, distributed separately. The PrimaryIssue is not repeated in the list Issue elements, and no assumptions show be made regarding the ordering of Issue elements in the XML output.

**Command Line Syntax**

The syntax to start the 3MF CLI interface is as follows:

java -jar 3mfedit.jar [command line options]

We recommend in a Windows environment using the following batch file to enable running the CLI from any directory, assuming you use full file paths to the files to be analyzed. Command line options would follow the name of the batch file when executing.

pushd %cd%

cd C:\WORKING\_JAR\_DIRECTORY

java -jar 3mfedit.jar %\*

popd

**Command Line Options**

**-C**

It indicates that the code is to run in CLI mode. Without this, the editor will launch.

**-F filename.3mf**

This provides a single file for the code to validate. The filename should include the path needed to access the file, so the example above is relative to the location of the jar. You can put the full path in if you wish. You can use \ or / as directory delimiters.

**-L filelist.txt**

This provides the location of a text file to read that contains a list of files with their paths. One file per line. If both -F and -L are specified then the code will process the individual file, followed by the list of files.

**-V**

This will force running only the XML validation on the file(s).

**-S**

This will force running only the structural check on the file(s). If both -V and -S are set, then -S will override.

**-I**

This option overrides the failure of an xml validation, causing the structure validation to continue despite the schema failure. The option is the letter “I”

**-O**

By default, individual HTML results file are overridden. This option will disable the overwrite and you will get versioning of the result files (…\_1.html, …\_2.html etc.). The option is the letter "O" Note that the failures.html file is always overridden and is not influence by this command line option.

**-W**

This will hide the warnings when included in the command line.

**Recommended Command Lines**

The minimum required options are the -C and either -F or -L with the appropriate file.

Recommended command line for a single file assuming use of the batch file recommended previously:

**\path\cli\_batch.bat -C -F \path\file.3mf -I -W**

Recommended command line for using a text file to specific specify a list of files to process assuming use of the batch file recommended previously:

**\path\cli\_batch.bat -C -L \path\list.txt -I -W**

If specifying the filename on the command line, make sure to enclose it in quotes if the path or name contains any spaces. This is not necessary when listing the path and files in a list text file.

Note that NullPointerExceptions may appear in the command window if forcing structure checks when there are schema validation errors in the file. This will not hurt anything and results will still be valid, but is an indication that the structure check encountered an exception it could not handle.