



# Universal Translator

Version 10

**USER GUIDE**

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May 2009

# MapInfo Universal Translator User Guide

The MapInfo Universal Translator translates files in MapInfo formats to several different spatial data formats and translates files from several formats into MapInfo .TAB files. The Universal Translator is typically run as a tool under MapInfo Professional's Tools Menu, but can also be run manually in a MapBasic window, using another language program, or in batch-file mode. This *User Guide* describes both processes in detail.

**Note** For using other data with universal formats such as ESRI ArcSDE, ESRI Personal Geodatabase (\*.MDB), USGS Spatial Data Transfer Standard (\*.CATD.DDF), VPF NIMA/NGA (\*.FT), try the Universal Data option in MapInfo Professional.

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## Introduction to the MapInfo Universal Translator

The Universal Translator can translate these file formats into MapInfo .TAB and .MIF\MID files:

- AutoCAD DWG/DXF
- ESRI ArcInfo Export (E00)
- ESRI Shapefile (SHP)
- MicroStation Design (DGN)
- Spatial Data Transfer Standard (SDTS)
- Vector Product Format (VPF)

The Universal Translator can translate MapInfo .TAB and .MIF\MID files into these formats:

- AutoCAD DWG/DXF
- ESRI ArcInfo Export (E00)
- ESRI Shapefile
- MicroStation Design

## Using the Translator from within MapInfo Professional

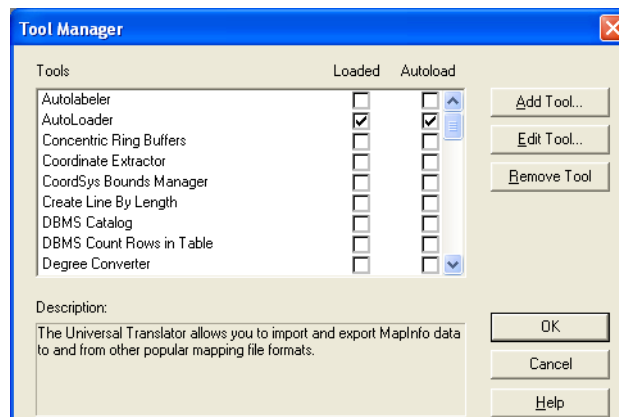
If you are working in MapInfo Professional you can use the Universal Translator to convert files from its existing format into a MapInfo .TAB file or .MIF/.MID file or from .TAB file format into other vector formats.

### Loading the Universal Translator into the Tool Manager

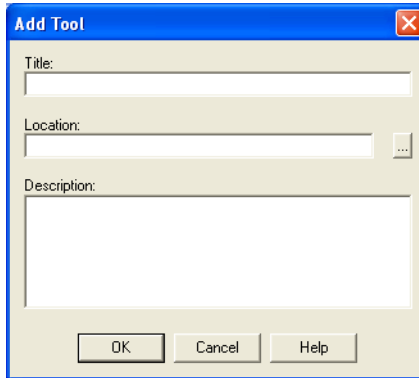
The Universal Translator is automatically loaded with MapInfo Professional. It is accessed by choosing **Tools > Universal Translator > Universal Translator**. If unloaded, then you must reload it manually from the Tools menu.


To load the Universal Translator to the Tool Manager menu:

1. From the MapInfo Professional Main menu choose **Tools > Tool Manager**. The Tool Manager dialog box displays.



2. Scroll down the **Tools** list and do one of the following:
  - If the Universal Translator is not in the list, go to **step 3**.
  - If the Universal Translator is in the list, scroll down to the entry and go to **step 7**.
3. Click the **Add Tool** button and the Add Tool dialog box displays.

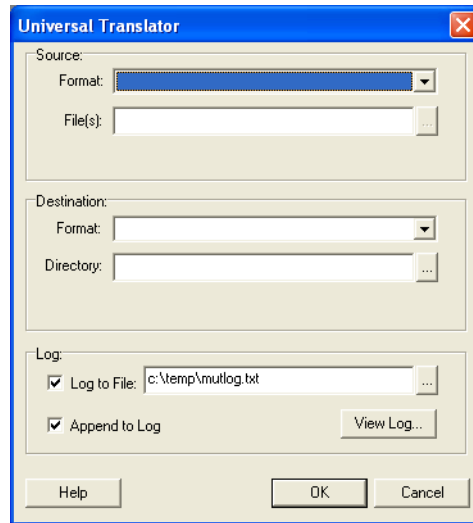



4. Type **Universal Translator** into the **Description** field.
5. Beside the **Location** field, click the  button. Using the Select MapBasic Program dialog box, search for the MUT.MBX file in the \UT folder within your installation directory. When you find it, select it and click **Open**.
6. Click **OK** to add the Universal Translator to the Tool Manager window.
7. To load the Universal Translator for this session only, select the check box in the **Load** column. To load the Universal Translator each time you open MapInfo Professional, select the **AutoLoad** check box. Both check boxes can be selected.
8. Click **OK** to save your entries.

## Using the Universal Translator

To run the Universal Translator:

1. Choose **Tools > Universal Translator > Universal Translator** to display the Universal Translator dialog box.



2. In the Source box, use the **Format** drop-down list to display a list of formats and select the source format for the dataset that you want to translate.  
When the format of the input dataset is MicroStation Design, the **Settings** button enables. Click this button to display the Design File Input Settings dialog box. Choose the appropriate coordinate units.
3. Type the name(s) of the files you want to translate or select  to search for the source files and click **Open** to return to the Universal Translator dialog box.

**Note** When you select **AutoCAD**, the translator defaults to DWG format.

If you select AutoCAD files, ArcInfo files, Shapefiles, MicroStation Design files, or Vector Product Format files from the **Format** drop-down list, the Projection button enables. Use this button to display the Choose Projection list and set a specific projection for the input file.


The projection files that display in the Choose Projection list are from the MapInfo Projection MAPINFOW.PRJ file. If the appropriate projection entry does not display in this list, you can make a custom matching projection entry beforehand in this file (see the MapInfo Professional *User Guide* for more detail). If you select the wrong projection, you may get erroneous results. Please contact the vendor or original creator of this data to obtain descriptive information\metadata concerning the projection\coordinate system used in the input files to translate them correctly into MapInfo format.

**Note** An additional **Use Projection** setting in source file check box displays when you select Shapefiles as a source. When you select this check box, the Translator looks for the projection setting in a \*.prj file, if it exists in same directory as SHP file, projection file and uses it for the translation if its a supported projection in MapInfo Professional.

4. In the **Destination** box, select the format into which you would like to translate the selected file(s) in the **Format** drop-down list.


- If you select the ArcInfo format, a Settings button displays. Click this button to select **Coverage Precision** and **Compression** options for the translated file.
- If you select a MicroStation Design format, you can select the version number for the translated file you are creating.

**Note** When translating a file into a MapInfo .TAB file, the translation creates table versions unique to the MapInfo Professional version capable of using the data contained in the TAB file.

5. In the **Directory** field, enter the destination of the translated file(s) or click  to indicate the name and path of the destination.

**Note** If the source file is MapInfo .TAB format, and the destination file is AutoCAD, a Settings button displays. Click to display the AutoCAD Output Settings dialog box and select the appropriate AutoCAD file version from the list. In this case, you also select the whether the output should be DWG or DXF.

6. Set up the log file. The Universal Translator automatically creates a log file to document the translation process. If the translation fails, you should first look at the log to determine the cause of failure.

- a. Enter a name and location for this log file in the **Log to File** field. The default is your current temp directory and a file name of mutlog.txt (C:\temp\mutlog.txt). You can also select the  button to choose another name and/or path for this log file.
- b. To add to an existing log file, select the **Append to Log** check box. This adds the log entries from the translation to the end of the previous log entry. When you do not select this check box, the Universal Translator overwrites the previous log entries. This step is not required.

**Note** To view the existing log, click **View Log**.

7. Click **OK** to begin the translation process.

For more information about the Universal Translator dialog box, see [Understanding the Universal Translator Dialog Box](#) in the next section. There is more detail in the Universal Translator Help System about the other dialog boxes discussed in this section. Use these descriptions to guide you through the intricacies of the translation process. Press the **F1** Help key on your keyboard to display help for the active Universal Translator dialog box.

## Understanding the Universal Translator Dialog Box

The fields in the Universal Translator dialog box are described more fully in this section.


### Source Format

Use the **Format** drop-down list to display a list of formats. Select the Source Format for the dataset that you want to translate. When the format of the input dataset is *MicroStation Design*, the **Settings** button is enabled. Click this button to display the Design File Input Settings dialog box. Choose the appropriate co-ordinate units:

- Master
- Sub

- UOR

### File(s)

Enter the file(s) to be translated or click  to display the Select Input Files dialog box. Choose the file(s) from the Select Input dialog box. When you select **AutoCAD**, the system defaults to **DWG** format.

### Use projection setting in source file

This option is available when you select the Shapefile format. Select this check box to have the Universal Translator look automatically for a matching MapInfo Professional projection from the Shapefile's associated \*.prj file, if one exists in the same directory, and create the .TAB/.MIF file in that projection. You can make a custom matching projection entry beforehand in the MAPINFOW.PRJ file if one does not exist, (see the MapInfo Professional *User Guide* for more detail).

If you do not select this check box, the .TAB/.MIF file is created in a Non-Earth, meters system by default, or another projection by clicking on the **Projection** button and selecting the correct projection to apply to the translated .TAB or .MIF/.MID file.


### Projection button

Available when you have selected a AutoCAD DWG/DXF, ESRI ArcInfo Export (E00), ESRI Shapefile (SHP), MicroStation Design (DGN), or Vector Product Format (VPF) format. Displays the Choose Projection dialog box. Select the correct projection to apply to the translated .TAB or .MIF/.MID file.

If you have selected a MapInfo .TAB, .MIF/.MID, or SDTS format file, "Read from Source" displays since these files contain coordinate system information. If you have selected **Shapefile**, **AutoCAD**, **Intergraph**, or **VPF** files, designate the coordinate system; if you do not designate a coordinate system, the Universal Translator defaults to Non-Earth, meters.

**Note** If you designate the wrong coordinate system, errors may occur or data will be translated to incorrect location or not at all. The Universal Translator does not convert coordinates from one projection to another, so make sure the chosen projection matches the one intended for the data. This projection information is often stored in metadata with the source files or obtained from its authors.

Please contact the vendor or original creator of this data to obtain descriptive information/metadata concerning the projection/coordinate system used in the input files to translate them correctly into MapInfo format.

Choose  to display the Choose Projection dialog box.

### Category

Choose a projection from the **Category** drop-down list.

### Category Members

Choose the appropriate coordinate unit from the **Category Members** drop-down list.

**Destination Format**

Select the format of the translated file.

**Note** When translating into MapInfo .TAB, the translation creates MapInfo tables in the version capable of opening and using the features or attribute data contained in that table after translation, such as newer projections or Date\Time data.

**Directory**

Enter the destination of the translated file or click  to display the Select Directory dialog box and designate the name and path of the destination file.


If the source file is MapInfo format, and the destination file is AutoCAD, a **Settings** button displays. Click this button to display the AutoCAD Output Settings dialog box and select the appropriate version of AutoCAD.

**Log**

The Universal Translator automatically creates a log file documenting the translation process. Should the translation fail, you should first look at the log to determine the cause of failure.

**Log to File**

Specify a filename and location for the Log file. The default mutlog.txt log file location is the user's

temporary file directory specified by the Windows System. Click  to designate another name/path for the log file.

**Append to Log**

When you select this button, the log entries resulting from the next translation append to the previous one. When this button is cleared, a new log is created, overwriting the previous log entries.

**Some Notes About Using the Universal Translator**

- To produce successful results, the data you are converting must be in the language of the system you are using
- This version is double-byte enabled; contains support for the latest Shape file format; updated AutoCAD metafiles and updated Intergraph metafiles
- The Universal Translator does not officially support 3-dimensional Intergraph DGN or 3 dimensional AutoCAD DWG/DXF files; the translation results using these files are unpredictable
- Unlike MapInfo Professional's import DXF, the Universal Translator does not perform coordinate transformations
- When translating DWG/DXF to .TAB/.MIF, the Universal Translator does not translate AutoCAD meshes
- When translating DWG/DXF or DGN, the translator does not attempt to match display attributes, including line color, font type.
- Universal Translator does support UNC paths
- When translating from Shapefiles to .TAB files, the Universal Translator defaults empty fields to the following:
  - a. Empty numeric field with a width of one translates to a 0 (zero)
  - b. Empty numeric field with a width of two translates to -9
  - c. Empty numeric field with a width of three translates to -99
  - d. Empty numeric field with a width of four translates to -999

- e. Empty numeric field with a width of five or greater translates to -9999

A single file translation may result in multiple files depending on file types.

**Virtual Memory:** When translating to or from DWG/DXF, it is possible to encounter a lack of virtual memory. An error message displays indicating this problem.

## Using the Universal Translator From the Command Line

Below are the syntax and parameter descriptions for running Universal Translator in this command-line mode. Only the parameters that are supported and tested by Pitney Bowes Business Insight are included in the descriptions below. Any other command-line parameters not listed are unsupported, and assistance with these should be obtained from SAFE Software, Inc. The Universal Translator uses syntax from Full FME translator but SAFE Software. The commands used in the examples below expose the same functionality that is obtained via the Universal Translator GUI provided with MapInfo Professional. Examples of its use in MapBasic programming language are also provided if you need them.

In all the examples provided, the path names are to be replaced by something actually present on a user system. In addition, each place where MAPINFO is present in the command line can be replaced by .MIF if .MIF files are required instead of native .TAB files.

The command line examples also assume a DOS prompt that is running from the directory holding the IMUT.exe executable. In addition, all the parameters should be placed in one continuous line for each command to be executed.

Translations are performed in two stages. The application:

1. Generates a semantic control or *mapping file* script that controls the translation.
2. Runs the translation using this generated mapping file.

Important syntax notes:

- Any options given as **Yes** can also be specified as **No** to turn off the behavior.
- The **DestDataset** indicates where the output is to be written, and the **SourceDataset** controls where the input is read from.
- Log files can be generated from each stage.
- Embedded quotes such as MapInfo CoordSys clauses need to be passed with escape characters such as this example:

```
CoordSys Earth Projection 10, 104, \"m\", 0** In MapBasic, a CoordSys
string containing a specific map unit can be passed like this to
IMUT:"CoordSys Earth Projection 10, 104," + chr$(92) + chr$(34) + "m" +
chr$(92)+ chr$(34)+ ", 0"*** Uses ASCII character codes chr$(92) for the
"\\" character and chr$(34) to embed quoted strings.
```

## Importing Data Using the Command Line

This section provides details for importing data into MapInfo Professional from other data source formats.

**Note Important:** In this document we only cover the features that are used in MapInfo Professional's Universal Translator MBX. If you use command line parameters other than those documented here, Pitney Bowes Business Insight Corporation has not tested and does not support them. Support for those command-line parameters and for any unexpected results that occur need to be obtained from SAFE Software, Inc.

### Importing Data from AutoCAD DWG and DXF Formats

Follow these steps to import data from AutoCAD DWG and DXF formats into a MapInfo .TAB file from the command line.

#### Step 1) Generating the Mapping File

```
Imut.exe CFGenerate autocadScan MAPINFO "D:\test.dwg" "C:\Temp\mapping.fme"
LOG_STANDARDOUT YES LOG_FILENAME "C:\Temp\mutlog.txt" LOG_APPEND "NO" --
Source_EXPAND_BLOCKS "yes" --Source_ATTR "autocad_attributes" --Source_ATTRKIND
"extended_entity_data" --LAYERBASENAME "test"
```

#### *Understanding the Mapping File Parameters*

Imut.exe – Application name of the MapInfo Universal Translator. Assumes it is running from the DOS prompt, so path to it should be set.

CFGenerate – Command that generates a semantic control file

autocadScan – Input format is AutoCAD format file.

MAPINFO – Output format is MapInfo .TAB. If the output file format is .MIF\MID, then use “.MIF”.

"D:\test.dwg" – Path and filename of the input AutoCAD file.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file – can be prefixed with any name.

LOG\_STANDARDOUT – Generates a text log file during the translation (Yes or No).

LOG\_FILENAME – Path and filename of the logfile to be generated.

LOG\_APPEND – Appends the results of logfiles in subsequent translations – (Yes or No) – Default is No.

- Source\_EXPAND\_BLOCKS – By default the Universal Translator expands blocks in AutoCAD files (Yes or No) – Default is Yes.
- Source\_ATTR – "autocad\_attributes" – handles AutoCAD attributes
- Source\_ATTRKIND – "extended\_entity\_data" – handles extended entities in AutoCAD files.
- LAYERBASENAME – Optional prefix added to all resulting .TAB filenames.

**Note** \*\*The LAYERBASENAME argument is a prefix which is added to all resulting MapInfo table names, and is optional. Typically it is the root name of the source DWG file.

### Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" --SourceDataset "D:\test.dwg" --DestDataset "C:\output" --
_EXPAND_BLOCKS yes --ATTRKIND extended_entity_data --EXTENSION dwg --BASENAME
test --FULLBASENAME test MAPINFO_COORDSYS_STATEMENT "CoordSys Earth Projection
10, 104, \"m\", 0"
```

#### *Understanding the Translation Parameters*

Imut.exe – Name of the MapInfo Universal Translator executable.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file generated in step 1.

- SourceDataset "D:\test.dwg" – Path and filename of the input file to be translated.
- DestDataset "C:\output" – Path and folder name of the output to be generated.
- \_EXPAND\_BLOCKS – Same as --Source\_EXPAND\_BLOCKS above – (Yes or No).
- \_ATTRKIND – Same as --Source\_ATTRKIND above – (extended\_entity\_data ).
- \_EXTENSION – Input format extension (DWG or DXF are valid AutoCAD format extensions) – Case insensitive.
- \_BASENAME – Name of output file to be generated – can be same as LAYERBASENAME.
- \_FULLBASENAME – Can be same as LAYERBASENAME

MAPINFO\_COORDSYS\_STATEMENT – Optional parameter – The CoordSys Clause applied to result TAB\MIF\MID file. IMUT will not re-project data being translated into a different coordinate system\projection, it applies the CoordSys clause passed to the result TAB\MIF file. Make sure the CoordSys used is appropriate for the data being translated. The output TAB\MIF file will default to the projection specified in the Shape file's \*.prj file (if it exists in same directory) or to Non-Earth/meters if no CoordSys clause is passed and no .SHP file \*.prj file exists.

## Importing Data from the MicroStation DGN Format

### Step 1) Generating the Mapping File

```
Imut.exe Generate design .MIF "C:\test.dgn" "C:\Temp\mapping.fme" LOG_STANDARDOUT YES -
-Source_IGDS_MSLINKS "no" --Source_XPNDCELL "yes" --Source_PRESERVE_CELL_INSERTS
"no" --SourceSPLIT_MULTITEXT "yes" --Source_PROPAGATE "no" --Source_DROP_COMPLEX
"no" --Source_TEXTTAGS "yes" --Source_IN_UNITS "IGDS_MASTER_UNITS" --
Source_USE_LEVEL_NAMES "no" +MERGE_SCHEMAS YES
```

#### *Understanding the Mapping File Parameters*

Imut.exe – Application name of the MapInfo Universal Translator. Assumes it is running from a DOS prompt, so path to it should be set.

Generate – Universal Translator command that generates a semantic control file.

design – Input format set to MicroStation.

DGNMAPINFO – Output format set to MapInfo .TAB. If .MIF\MID output needed, then use ".MIF".

"C:\test.dgn" – Path and filename of input MicroStation DGN file.

"C:\Temp\mapping.fme" – Path and name of the semantic mapping\control file.

LOG\_STANDARDOUT – Output a text logfile of translation (Yes or No) – use with LOG\_FILENAME parameter to create the file.

LOG\_FILENAME – Path and filename of the logfile to be generated.

LOG\_APPEND – Appends the results of logfiles in subsequent translations – (Yes or No) – Default is No.

- Source\_IGDS\_MSLINKS – Supports MSLINKS in DGN files (Yes or No).
- Source\_XPNDCELL – Expands Cell Elements (Yes or No)
- Source\_PRESERVE\_CELL\_INSERTS – Preserves cell insert points (Yes or No) – if Cell Elements are expanded only.
- Source\_SPLIT\_MULTITEXT – Splits multi Text (Yes or No) – Default is Yes.
- Source\_PROPAGATE – Propagates the chain member linkages (Yes or No) – applied when not dropping complex elements.
- Source\_DROP\_COMPLEX – Drops complex chains while reading (Yes or No) – Default is No.
- Source\_TEXTTAGS – Tags elements output as text when reading source file (Yes or No) - Default is Yes.
- Source\_IN\_UNITS – Controls how all the FME coordinates read from the design file are interpreted.

Valid values are:

IGDS\_MASTER\_UNITS – FME coordinates are treated as Master Units – DEFAULT.

IGDS\_SUB\_UNITS – FME coordinates are treated as Sub Units.

IGDS\_UORS – FME coordinates are treated as UORs.

## **Step 2) Running the Mapping File to Perform the Translation**

```
Imut.exe C:\Temp\mapping.fme --SourceDataset "C:\test.dgn" --DestDataset "C:\output" --
_XPNDCELL yes --_IN_UNITS IGDS_MASTER_UNITS --_EXTENSION dgn --_BASENAME
filename --_FULLBASENAME filename MAPINFO_COORDSYS_STATEMENT "CoordSys Earth
Projection 11, 104, \"m\", 0"
```

### ***Understanding the Translation Parameters***

Imut.exe – Name of the MapInfo Universal Translator executable.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file generated in step 1.

- SourceDataset "D:\test.dgn" – Path and filename of the input file to be translated.
- DestDataset "C:\output" – Path and folder name of the output to be generated.
- \_XPNDCELL – Same as --Source\_XPNDCELL parameter in Step 1. (Yes or No).
- \_IN\_UNITS – Same as --Source\_IN\_UNITS parameter in step 1. (Default is IGDS\_MASTER\_UNITS).
- \_EXTENSION – Format extension of the input file (DGN)
- \_BASENAME – Name of the output file to be generated – can be same as LAYERBASENAME.
- \_FULLBASENAME – Can be same as LAYERBASENAME
- MAPINFO\_COORDSYS\_STATEMENT – Optional parameter – The CoordSys Clause applied to the resulting .TAB\MIF\MID file. The Universal Translator does not re-project data being translated into a different coordinate system/projection, it applies the CoordSys clause passed to

the resulting .TAB\MIF file, so make sure the coordinate system you use is appropriate for the data being translated. If no CoordSys clause is passed, the output .TAB\MIF file defaults to Non-Earth, meters.

## Importing Data from the E00 Format

### Step 1) Generating the Mapping File

```
Imut.exe CFGenerate E00 MAPINFO "C:\temp\polygon.e00" "C:\Temp\mapping.fme"  
LOG_STANDARDOUT YES LOG_FILENAME "C:\Temp\mutlog.txt" LOG_APPEND "NO"
```

#### *Understanding the Mapping File Parameters*

Imut.exe – Application name of the MapInfo Universal Translator. Assumes it is running from DOS prompt, so path to it should be set.

CFGenerate – Command that generates a semantic control file

E00 – Input format set to ArcInfo Export Format

MAPINFO – Output format set to MapInfo .TAB. If .MIF\MID output is needed, then use ".MIF".

"C:\temp\polygon.e00" – Path and filename of the input ArcInfo .E00 file.

"C:\Temp\mapping.fme" – Path and name of the semantic mapping/control file.

LOG\_STANDARDOUT – Outputs a text logfile of translation (Yes or No) – use with LOG\_FILENAME parameter to create a file.

LOG\_FILENAME – Path and filename of the logfile to be generated.

LOG\_APPEND – Appends the results of logfiles in subsequent translations – (Yes or No) – Default is No.

### Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" --SourceDataset "C:\temp\polygon.e00" --DestDataset "C:\temp" -  
-_EXTENSION e00 --_BASENAME polygon --_FULLBASENAME polygon  
MAPINFO_COORDSYS_STATEMENT "CoordSys Earth Projection 1, 104"
```

#### *Understanding the Translation Parameters*

Imut.exe – Name of the MapInfo Universal Translator executable.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file generated in step 1.

- SourceDataset "c:\temp\polygon. e00" – Path and filename of the input file to be translated.
  - DestDataset "C:\temp" – Path and folder name of the output to be generated.
  - \_EXTENSION – Format extension of the input file (.E00)
  - \_BASENAME – Name of the output file to be generated – can be same as LAYERBASENAME.
  - \_FULLBASENAME – Can be same as LAYERBASENAME
- MAPINFO\_COORDSYS\_STATEMENT – Optional parameter – The CoordSys Clause applied to the resulting .TAB\MIF\MID file. The Universal Translator does not re-project data being translated into a different coordinate system\projection. It applies the CoordSys clause passed to

the resulting .TAB\MIF file, so make sure the CoordSys used is appropriate for the data being translated. If no CoordSys clause is passed, the output .TAB\MIF file defaults to Non-Earth, meters.

## Importing Data from the Shapefile Format

### Step 1) Generating the Mapping File

```
Imut.exe CFGenerate SHAPE MAPINFO "C:\temp\poly.shp" "C:\Temp\mapping.fme"  
LOG_STANDARDOUT YES LOG_FILENAME "C:\Temp\mutlog.txt" LOG_APPEND "NO"
```

#### *Understanding the Mapping File Parameters*

Imut.exe – Application name of the MapInfo Universal Translator. Assumes it is running from a DOS prompt, so path to it should be set.

CFGenerate – Command that generates a semantic control file

SHAPE – Input format set to ESRI Shapefile format.

MAPINFO – Output format set to MapInfo .TAB. If .MIF\MID output needed, then use ".MIF".

"C:\temp\poly.shp" – Path and filename of the input ESRI Shapefile.

"C:\temp\mapping.fme" – Path and name of the semantic mapping\control file.

LOG\_STANDARDOUT – Outputs a text logfile of translation (Yes or No) – use with LOG\_FILENAME parameter to create the file.

LOG\_FILENAME – Path and filename of the logfile to be generated.

LOG\_APPEND – Appends the results of the logfiles in subsequent translations – (Yes or No) – Default is No.

### Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" --SourceDataset "C:\temp\poly.shp" --DestDataset "C:\temp" --  
_EXTENSION shp --_BASENAME filename--_FULLBASENAME filename
```

#### *Understanding the Translation Parameters*

Imut.exe – Name of the MapInfo Universal Translator executable.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file generated in step 1.

- SourceDataset "c:\temp\poly.shp" – Path and filename of the input file to be translated.
- DestDataset "C:\temp" – Path and folder name of output to be generated.
- \_EXTENSION – Format extension of input file (Shapefile)
- \_BASENAME – Name of output file to be generated – can be same as LAYERBASENAME.
- \_FULLBASENAME – Can be same as LAYERBASENAME

MAPINFO\_COORDSYS\_STATEMENT – Optional parameter – The CoordSys Clause applied to resulting .TAB\MIF\MID file. The Universal Translator does not re-project data being translated into a different coordinate system\projection. The output TAB\MIF file will default to the projection specified in the Shape file's \*.prj file (if it exists in same directory) or to Non-Earth/meters if no CoordSys clause is passed and no SHP file \*.prj file exists.

## Importing Data from the SDTS Format

### Step 1) Generating the Mapping File

```
Imut.exe Generate SDTS MAPINFO "C:\Temp\TR01CATD.DDF" "C:\Temp\mapping.fme"  
LOG_STANDARDOUT YES LOG_FILENAME "C:\Temp\mutlog.txt" LOG_APPEND "NO"
```

#### *Understanding the Mapping File Parameters*

Imut.exe – Application name of the MapInfo Universal Translator. Assumes it is running from a DOS prompt, so path to it should be set.

Generate – Command that generates a semantic control file

SHAPE – Input format set to Spatial Data Transfer Standard (SDTS).

MAPINFO – Output format set to MapInfo .TAB. If .MIF\MID output is needed, then use ".MIF".

"C:\temp\TR01CATD.DDF" – Path and filename of the SDTS archive to be translated (\*\*\*\*CATD.DDF).

"C:\temp\mapping.fme" – Path and name of the semantic mapping\control file.

LOG\_STANDARDOUT – Outputs a text logfile of translation (Yes or No) – use with LOG\_FILENAME parameter to pump it out to a file.

LOG\_FILENAME – Path and filename of the logfile to be generated.

LOG\_APPEND – Appends the results of logfiles in subsequent translations – (Yes or No) – Default is No.

### Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" --SourceDataset "C:\Temp\TR01CATD.DDF" --DestDataset  
"C:\Temp"
```

#### *Understanding the Translation Parameters*

Imut.exe – Name of the MapInfo Universal Translator executable.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file generated in step 1.

- SourceDataset "C:\Temp\TR01CATD.DDF" – Path and filename of the input file from SDTS archive to be translated.
- DestDataset "C:\temp" – Path and folder name of the output to be generated.

\*\*MAPINFO\_COORDSYS\_STATEMENT is not used, the CoordSys is read directly from input SDTS file.

## Importing Data from the VPF Format

### Step 1) Generating the Mapping File

```
Imut.exe Generate VPF MAPINFO "C:\input\NAV" "C:\Temp\mapping.fme" LOG_STANDARDOUT
YES LOG_FILENAME "C:\Temp\Mutlog.txt" LOG_APPEND "NO" +ID "BUOYBCNP"
```

#### *Understanding the Mapping File Parameters*

Imut.exe – Application name of the MapInfo Universal Translator. Assumes it is running from DOS prompt, so the path to it should be set.

Generate – Command that generates a semantic control file

VPF – Input format set to Vector Product format (VPF).

MAPINFO – Output format set to MapInfo .TAB. If .MIF\MID output is needed, then use ".MIF"

"C:\input\NAV" – Path and folder of the VPF archive to be translated.

"C:\temp\mapping.fme" – Path and name of the semantic mapping\control file.

LOG\_STANDARDOUT – Outputs a text logfile of translation (Yes or No) – use with LOG\_FILENAME parameter to create a file.

LOG\_FILENAME – Path and filename of the logfile to be generated.

LOG\_APPEND – Appends the results of logfiles in subsequent translations – (Yes or No) – Default is No.

+ID "BUOYBCNP" – Layer Name (ID) of the VPF archive to be translated.

### Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" --SourceDataset "C:\input\NAV" --DestDataset "C:\output"
MAPINFO_COORDSYS_STATEMENT "CoordSys Earth Projection 1, 104"
```

#### *Understanding the Translation Parameters*

Imut.exe – Name of the MapInfo Universal Translator executable.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file generated in step 1.

- SourceDataset "C:\input\NAV" – Path and folder name of the VPF archive to be translated.
- DestDataset "C:\output" – Path and folder name of the output to be generated.

MAPINFO\_COORDSYS\_STATEMENT – Optional parameter – The CoordSys Clause applied to resulting .TAB\MIF\MID file. The Universal Translator does not re-project data being translated into a different coordinate system\projection. It applies the CoordSys clause passed to the resulting .TAB\MIF file, so make sure the CoordSys used is appropriate for the data being translated. If no CoordSys clause is passed, the output .TAB\MIF file defaults to Non-Earth, meters.

**Note** VPF data is typically created in Longitude\Latitude (WGS84).

## Exporting Data Using the Command Line

This section provides details for exporting data from MapInfo Professional to other data formats.

### Exporting Data to DWG or DXF Format

#### Step 1) Generating the Mapping File

```
Imut.exe CFGenerate MAPINFO DWG "D:\MapInfo\Regions.tab" "C:\temp\mapping.fme"  
LOG_STANDARDOUT YES LOG_FILENAME "C:\temp\mutlog.txt" LOG_APPEND "NO" --  
Dest_ATTR "autocad_attributes" --Dest_ATTRKIND "extended_entity_data" --Dest_REL  
"Release2000"
```

#### *Understanding the Mapping File Parameters*

**Imut.exe** – Application name of the MapInfo Universal Translator. Assumes it is running from a DOS prompt, so the path to it should be set.

**CFGenerate** – Command that generates a semantic control file

**MAPINFO** – Input format is MapInfo .TAB. If the input file has a .MIF\MID extension, then use “.MIF”.

**DWG** – Output format is AutoCAD DWG format. If an AutoCAD DXF format is needed use "DXF".

"D:\MapInfo\Regions.tab" – Path and filename of the input MapInfo .TAB or .MIF\MID file.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file – can be prefixed any name.

**LOG\_STANDARDOUT** – Generates a text log file during the translation (Yes or No).

**LOG\_FILENAME** – Path and filename of the logfile to be generated.

**LOG\_APPEND** – Appends the results of the logfiles in subsequent translations – (Yes or No) – Default is No.

- **Dest\_ATTR "autocad\_attributes"** – Creates AutoCAD attributes in the output file.
- **Dest\_ATTRKIND "extended\_entity\_data"** – Creates extended entities in AutoCAD files.
- **Dest\_REL "Release2000"** – Release version of the AutoCAD file to be created.

**Note** The **Dest\_REL** parameter may be any one of these: Release11, Release12, Release13, Release14, Release2000, or Release2004.

\*\*\* AutoCAD Release 2002 format is same as Release 2000, and AutoCAD Release 2005 and 2006 is same as Release 2004.

#### Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" SourceDataset "D:\MapInfo\Regions.tab" --DestDataset  
"C:\temp\output.dwg" --_ATTRKIND extended_entity_data --_REL Release2000 --_EXTENSION  
TAB --_BASENAME Regions --_FULLBASENAME Regions
```

***Understanding the Translation Parameters***

Imut.exe – Name of the MapInfo Universal Translator executable.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file generated in step 1.

- SourceDataset "D:\MapInfo\Regions.tab" – Path and filename of the MapInfo .TAB file to be translated.
- DestDataset "C:\temp\output.dwg" – Path and folder name of the output AutoCAD file to be generated.
- \_ATTRKIND extended\_entity\_data – Creates the extended entities in AutoCAD files.
- \_REL Release2000 – Creates a release 2000 AutoCAD file. See notes above on valid release versions.
- \_EXTENSION TAB – Input format extension (TAB or .MIF only).
- \_BASENAME – Name of the output file to be generated. Can be the same as input filename.
- \_FULLBASENAME – Can be the same as input filename

\*\*\* MapInfo CoordSys is not needed because the CoordSys is read directly from .TAB or .MIF file.

**Exporting Data to the E00 Format****Step 1) Generating the Mapping File**

```
Imut.exe CFGenerate MAPINFO E00 "D:\MapInfo\Regions.tab" "C:\Temp\Mapping.fme"  
LOG_STANDARDOUT YES LOG_FILENAME "C:\Temp\mutlog.txt" LOG_APPEND "NO" --  
Dest_PRECISION "Double" --Dest_COMPRESSION "NONE"
```

***Understanding the Mapping File Parameters***

Imut.exe – Application name of the MapInfo Universal Translator. Assumes it is running from a DOS prompt, so the path to it should be set.

CFGenerate – Command that generates a semantic control file

MAPINFO – Input format is MapInfo .TAB. If the input format is .MIF\MID, then use “.MIF”.

E00 – Output format is the ArcInfo Export format.

"D:\MapInfo\Regions.tab" – Path and filename of the input MapInfo .TAB or .MIF\MID file.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file. Can be prefixed by any name.

LOG\_STANDARDOUT – Generates a text log file during the translation (Yes or No).

LOG\_FILENAME – Path and filename of the logfile to be generated.

LOG\_APPEND – Appends the results of logfiles in subsequent translations – (Yes or No) – Default is No.

Dest\_PRECISION – Precision of the .E00 file produced, may be "Single" or "Double" – Default is "Double".

Dest\_COMPRESSION – Compression of the .E00 file - can be "FULL", "PARTIAL", or "NONE". Default is "NONE".

### Step 2) Running the Mapping File to Perform the Translation

```
Imut.exe "C:\Temp\mapping.fme" --SourceDataset "D:\MapInfo\Regions.tab" --DestDataset  
"C:\Temp\output" --_PRECISION Double --_COMPRESSION NONE --_EXTENSION TAB --  
_BASENAME Regions --_FULLBASENAME Regions
```

#### *Understanding the Translation Parameters*

Imut.exe – Name of the MapInfo Universal Translator executable.

"C:\TEMP\MAPPING.FME" – Path and filename of the semantic control file generated in step 1.

SourceDataset "D:\MapInfo\Regions.tab" – Path and filename of the MapInfo .TAB file to be translated.

DestDataset "C:\Temp\output" – Path and folder name of the output .E00 file to be generated.

- `_PRECISION` – Internal precision of the export file, can be "Single" or "Double". Default is "Double".
- `_COMPRESSION` – Compression factor of the resulting .E00 file, can be "FULL", "PARTIAL", or "NONE". Default is "NONE".
- `_EXTENSION` – Input extension set to MapInfo .TAB. If the input extension is .MIF\MID use ".MIF"
- `_BASENAME` – Name of the output file to be generated – can be the same as input filename
- `_FULLBASENAME` – Can be same as the input filename

\*\*\* MapInfo CoordSys is not needed - The CoordSys is read directly from .TAB or .MIF file.

## Exporting Data to a Shapefile Format

### Step 1) Generating the Mapping File

```
Imut.exe CFGenerate MAPINFO SHAPE "D:\MapInfo\Regions.tab" "C:\Temp\Mapping.fme"  
LOG_STANDARDOUT YES LOG_FILEN
```

#### *Understanding the Mapping File Parameters*

Imut.exe – Application name of the MapInfo Universal Translator. Assumes it is running from the DOS prompt, so path to it should be set.

CFGenerate – Command that generates a semantic control file

MAPINFO – Input format is MapInfo .TAB. If the input format is .MIF\MID, then use ".MIF".

SHAPE – Output format is the ESRI Shapefile format.

"D:\MapInfo\Regions.tab" – Path and filename of the input MapInfo .TAB or .MIF\MID file.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file – can be prefixed any filename.

LOG\_STANDARDOUT – Generates a text log file during the translation (Yes or No).

LOG\_FILENAME – Path and filename of the logfile to be generated.

LOG\_APPEND – Appends the results of the logfiles in subsequent translations – (Yes or No), Default is No.

## **Step 2) Running the Mapping File to Perform the Translation**

```
Imut.exe "C:\Temp\mapping.fme" --HOMOGENOUS_GEOMETRY yes --_SHAPE_FILE_TYPE 2d --
SourceDataset "D:\MapInfo\Regions.tab" --DestDataset "C:\Temp\output" --_EXTENSION TAB --
_BASENAME Regions --_FULLBASENAME Regions
```

### ***Understanding the Translation Parameters***

Imut.exe – Name of the MapInfo Universal Translator executable.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file generated in step 1.

HOMOGENOUS\_GEOMETRY – Sets the homogenous geometry setting to Yes – Default. (Can be Yes or No). MapInfo .TAB\MIF files can have mixed object types whereas Shapefiles cannot. Setting this option to Yes creates a separate Shapefile containing each supported different object type found in .TAB file.

\_SHAPE\_FILE\_TYPE – Sets the Shapefile type to a 2D, which is the Default. Can also be "2dm" (2 Dimensional with measures) or "3dm" (3 Dimensional with measures).

SourceDataset "D:\MapInfo\Regions.tab" – Path and filename of the MapInfo .TAB file to be translated.

DestDataset "C:\Temp\output" – Path and folder name of the output .E00 file to be generated.

- \_EXTENSION – Input extension set to MapInfo .TAB. If the input file is in .MIF\MID format, use ".MIF"
- \_BASENAME – Name of the output file to be generated – can be the same as input filename
- \_FULLBASENAME – Can be the same as input filename

\*\*\* MapInfo CoordSys is not needed because the coordinate system is read directly from the .TAB or .MIF file.

## **Exporting Data to the DGN Format**

### **Step 1) Generating the Mapping File**

```
Imut.exe CFGenerate MAPINFO IGDS "D:\MapInfo\cy.tab" "C:\Temp\mapping.fme"
LOG_STANDARDOUT YES LOG_STANDARDOUT YES LOG_FILENAME "C:\Temp\mutlog.txt"
LOG_APPEND "NO" --Dest_TYPE3 "yes" --Dest_OUT_UNITS "IGDS_MASTER_UNITS" --
Dest_SEED "C:\Program Files\MapInfo\Professional\Ut\design\seed2d_m_v8.dgn"
```

### ***Understanding the Mapping File Parameters***

Imut.exe – Application name of the MapInfo Universal Translator. Assumes it is running from a DOS prompt, so the path to it should be set.

CFGenerate – Command that generates the semantic control file

MAPINFO – Input format is MapInfo .TAB. If the input format is .MIF\MID, then use ".MIF".

IGDS – Output format is MicroStation Design (DGN) file format.

"D:\MapInfo\Regions.tab" – Path and filename of the input MapInfo .TAB or .MIF\MID file.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file – can be prefixed with any filename.

LOG\_STANDARDOUT – Generates a text log file during the translation (Yes or No).

LOG\_FILENAME – Path and filename of the logfile to be generated.

LOG\_APPEND – Appends the results of logfiles in subsequent translations – (Yes or No), Default is No.

- Dest\_TYPE3 – Allows type 3 elements to be created for 2 point lines (Yes or No), Default is Yes.
- Dest\_OUT\_UNITS – How the Universal Translator treats resulting coordinates in a Design file.

Valid values are:

- IGDS\_MASTER\_UNITS – Coordinates are treated as Master Units by default.
- IGDS\_SUB\_UNITS – Coordinates are treated as Sub Units.
- IGDS\_UORS – Coordinates are treated as UORs.
- Dest\_SEED – Path and filename of the seed file used by the Universal Translator

**Note** The MapInfo Universal Translator uses the seed2d\_m\_v8.dgn seed file set by default to output MicroStation version 8 DGN files. If MicroStation version 7 DGN files are needed, set the seed file to use "seed2d\_m.dgn". To create output using other seed files, look in the \design folder supplied by SAFE. However, Pitney Bowes Business Insight has not tested these other files so the results are unknown and unsupported. Contact SAFE for any issues arising out of their use.

The MapInfo Universal Translator is shipped with the following MicroStation Seed files listed in \UT\design folder:

- bcutm3d.dgn
- bcutm2d.dgn
- seed2d\_ft.dgn
- seed2d\_ft\_v8.dgn
- seed2d\_m\_v8.dgn
- seed2d\_m.dgn
- seed3d\_ft.dgn
- seed3d\_ft\_v8.dgn
- seed3d\_m.dgn
- seed3d\_m\_v8.dgn
- seed\_ll.dgn.

### Step 2) Running the Mapping File to Perform the Translation

Imut.exe "C:\Temp\mapping.fme" – SourceDataset "D:\MapInfo\Regions.tab" – DestDataset "C:\Temp\output.dgn" --\_TYPE3 YES

- \_OUT\_UNITS IGDS\_MASTER\_UNITS – \_SEED "C:\Program Files\MapInfo\Professional\UT\design\seed2d\_m\_v8.dgn"
- \_EXTENSION .TAB – \_BASENAME Regions --\_FULLBASENAME Regions

***Understanding the Translation Parameters***

Imut.exe – Name of the MapInfo Universal Translator executable.

"C:\Temp\mapping.fme" – Path and filename of the semantic control file generated in step 1.

SourceDataset "D:\MapInfo\Regions.tab" – Path and filename of the MapInfo .TAB file to be translated.

DestDataset "C:\Temp\output.dgn" – Path and filename of the output DGN file to be generated.

- `_TYPE3` – Allows type 3 elements to be created for 2 point lines (Yes or No), Default is Yes.
- `_OUT_UNITS` – How the Universal Translator handles output DGN file units – Default is `IGDS_MASTER_UNITS`. See `Dest_OUT_UNITS` parameter in step 1.
- `_SEED` – Path and filename of the seed file used by the Universal Translator. See Note for `Dest_SEED` parameter in step 1.
- `_EXTENSION` – Input extension set to MapInfo .TAB. If the input extension is .MIF\MID use ".MIF"
- `_BASENAME` – Name of the output file to be generated – can be the same as input filename
- `_FULLBASENAME` – Can be the same as the input filename

\*\*\* MapInfo CoordSys is not needed because the coordinate system is read directly from .TAB or .MIF file.