

This file contains information on using the EUKLID Design Data Translator on the UNIX platforms SGI, HP und Windows NT/2000/XP

Content

1 General.....	1
1.1 New functions.....	1
1.2 Licensing.....	1
2 Working with the Data Translator.....	2
2.1 Software support.....	2
2.2 Customer-specific adaptations.....	2
2.3 Special data structure characteristics.....	2
2.4 Treatment of scaling.....	3
2.5 Treatment of invisible elements.....	3
2.6 Restrictions on data conversion.....	3
2.7 Special characteristics in connection with SIGGRAPH-CAD 2D.....	4
2.8 In case of error.....	4
3 General notes.....	5
3.1 Obsolete functions:.....	5
3.2 Incompatabilities.....	5

1 General

EUKLID Design Data Translator (hereafter referred to as the Data Translator) is the IGES/ DXF processor of EUKLID Design. It allows to read and create IGES, DXF and DWG files. Its functionality can be determined through the choice of performance levels and switches in the configuration file.

The data translator features the following characteristics:

- G1B1 and G1B2 performance levels according to VDAIS, as well as PLUS (logical additions) for IGES
- Miscellaneous switches for conversion control
- Comprehensive statistics of converted elements
- AQL interface prior to and following conversion
- Interactive and batch mode (via AQL)

Please consult the user manual for further information regarding the range of functions, etc.

1.1 New functions

With this release you can read and created DWG-Files. AutoCAD versions up to AutoCAD 2008 are supported (Unix platforms only up to AutoCAD 2004).

1.2 Licensing

There is no license necessary to use the Data Translator. To use the action for creating DWG-Files within EUKLID Design, there is the need to possess a license OD_DWO_NT or OD_DWO_UN.

2 Working with the Data Translator

No prior experience is required to use the data translator.

For optimal data transfer between IGES, DXF and DWG-Data and a particular CAD system, an extra directory should be established for specially adapted reference files; this, however, requires good knowledge of the chosen format.

Please consult the user manual for further details.

2.1 Software support

The IGES Standard definition results automatically in data interpretation problems due to the various processors in use. The same applies to the DXF and DWG format. This is why the Data Translator is designed to be configurable and can be optimally adapted to particular source or destination systems.

The same applies to DXF- and DWG.

That's the reason why Data Translator is made configurable and can be accommodated to different systems.

Questions or requests in this regard may be addressed to the appropriate hotline address.

2.2 Customer-specific adaptations

Through use of configuration files, the Data Translator can be adapted to particular destination or source systems (see user manual).

Please use the Config Editor by clicking the corresponding button in the parameter file selection menu when first creating this type of file.

Please note that the preset values are not always displayed correctly if they are dependent upon other settings. In case of doubt, you should set the desired value explicitly.

2.3 Special data structure characteristics

The postprocessor creates an EUKLID Design data structure which contains no relations and which corresponds approximately to that which is created by the function "Redefinition to simple definition types".

Each object is formed of points. The first is created relative to the origin and named depended on the source file 'iges_origin', 'dxf_origin' or 'dwg_origin'. All further points are created relative to this first point.

In addition, points which differ from previously-created points by less than the amount defined in ALLG_SYST_EPSL (defined in iges.zuor or dxf.zuor; see user manual) are not created, but rather reused. When a point is edited the relationships to the linked objects are always retained.

This distinction is applied separately for the X and Y axes. Points whose X coordinates

differ from those of the referenced point by less than ALLG_SYST_EPSL are created as Y-parallel points. Y-coordinates are handled in like manner.

You can create such coordinates either by objects of type "length" or absolutely (see configuration file).

2.4 Treatment of scaling

Scaling of details cannot be read correctly into EUKLID Design, since only a single scale is used in the IGES file (global section). Details are therefore always created to this (global) scale, which results in the display of detail dimensions as theoretical dimensions (i.e. underlined). Unfortunately, this cannot be realized with converted dimensions (created as lines and text).

The same applies to DXF and DWG conversion.

Scalings can be treated only via the IGES entity "View". For each view an own coordinate system will be created.

2.5 Treatment of invisible elements

IGES entities with status 'blanked' are created in an invisible layer called 'iges_blanked' erzeugt. (IGES only)

2.6 Restrictions on data conversion

● Splines

Fourth order splines cannot be transferred when geometrically correctly converted. (when IGES_DRAW is false)

When IGES_SPLI and IGES_DRAW are both false, splines cannot be transferred at all. (IGES only)

● Endless lines:

Endless lines are transferred as finite lines with end points which may lie far outside. When the file is read in again, these lines may not be displayed correctly.

● Arc length dimensions:

Arc length dimensions cannot be transferred in performance level G1B1. In the PLUS performance level, an angle dimension is transferred, but it can be recognized by the PLUS stage as a arc length dimension. (IGES only)

● Object names:

Names of objects (except for groups and layers) are not transferred.

● IGES_PATH, DXF_PATH and DWG_PATH switches in the configuration file:

The path name following <>_PATH is evaluated only interactively. When called in AQL using 'input_iges'/output_iges' the complete file name must be specified.

● Contours (surfaces):

In IGES, a contour may consist not only of lines and circles (or arcs) as in EUKLID

Design, but may also be composed of splines.

Splines are therefore always polygonized within contours and thereby included in the contour as approximations (see ALLG_SYST_EPSL in iges.zuor).

- **Hatching:**

In G1B1, hatching is transferred as IGES Entity 106 through use of EUKLID Design graphic calculation. This is why hatching cannot be transferred in performance level G1B1 when IGES_DRAW is set to 'false'.

This does not influence transfer of hatching as IGES Entity 230 in the PLUS level.

- **Hide:**

The information that a surface hides cannot be transferred. The Postprocessor therefore assumes for IGES Entity 230 with Code 0 or 19 (i.e. non-hatched) that it should be hidden.

You can activate the clipping for the output (see configuration file).

- **View treatment:**

View treatment occurs with clipping but only with lines, arcs and circles.

In connection with Views (Entity 410) and Single Subfigure Definition (Entity 308), problems may occur if the IGES file originates from a 3-D system. In that case, inbound transfer must be carried out using switch IGES_USER aufl.

Other settings result in creation of two-dimensional USER elements which of course can then no longer be viewed from other directions.

The same applies to Viewport and Block in DXF/DWG.

2.7 Special characteristics in connection with SIGGRAPH-CAD 2D

- **Visibility:**

SIGGRAPH-CAD 2D and EUKLID Design use surface filling to hide other elements. In order to obtain the same depiction in the destination system, a visibility list is transferred in addition using a Property entity (406) of Form 6731. It contains the elements in the same order in which they were drawn; i.e. the 'topmost' last.

- **Character set:**

The character sets of SIGGRAPH-CAD 2D and EUKLID Design vary substantially from one another; neither corresponds to the IGES standard.

In particular the extensions for German-speaking countries are not considered. Through use of extended reference files, however, these characters may be transferred among these systems. To do so, the following line must be added to the configuration file:

```
IGES_ZUOR #zuor_ext
```

2.8 In case of error

Please use the documentation and the release notes to check whether the behavior is a documented restriction.

The following information is required to diagnose a software error:

- The most precise error description possible, noting discrepancies from the user manual
- IGES, DWG or DXF file for postprocessor errors
- modell.mod for preprocessor errors with corresponding user elements
- the processor running log file
- the file "iges_aql.err" or "dxf_aql.err" or "dwg_aql.err"
- the reference files
- If incorrect graphic depictions or other effects which can only be described in visual terms (i.e. as a screen capture) occur during use of EUKLID Design, then we need a hard copy of the screen for diagnosis.

Please send all of this information to your appropriate hotline address.

3 General notes

3.1 Obsolete functions:

3.2 Incompatabilities

The Data Translator converts all Subfigures or Blocks (DWG/DXF) to Groups (there will be no UDO's created).

In the configuration file you can now only choose

IGES_USER diss

or

DXF_USER diss

or

DWG_USER diss

diss -> dissolve