

Genesis32 Product Family
IFIX TRANSLATOR UTILITY
Design/Functionality Documentation

PRODUCT VERSION 1.0

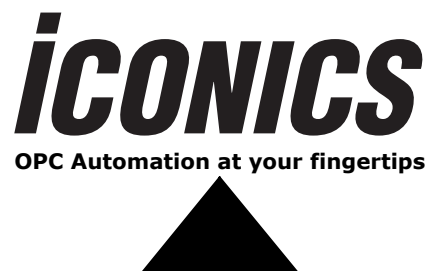
FUNCTIONAL/REQUIREMENTS SPECIFICATION CONFIDENTIAL
Contains Information Proprietary to ICONICS

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1 About This Document

1.1 Scope of the Document

This document contains design and functionality description of ICONICS iFixToGwxTranslator utility and user's guide.

1.2 Copyright and Confidentiality

The document is Copyright © 2003, ICONICS, Inc., Foxborough, Massachusetts as an unpublished work. It is considered CONFIDENTIAL, and contains trade secret information proprietary to ICONICS, Inc.

1.3 Revision History

5/14/2003 – Karel Jankovic – Initial Version

2 Introduction

2.1 Overview

ICONICS iFixToGwxTranslator Utility is intended to allow customers for easier transmigration from Intellution iFix to ICONICS GraphWorX32 product.

2.2 Conversion Procedure Description

Conversion of intellution iFix picture files to ICONICS GraphWorX32 display files is a three-step process.

In the first step iFix picture file (.grf file) is converted using Intellutions Web Convertor into web-viewed format as java definition file (.jdf). In the second step, java definition file is converted to GraphWorX32 display using ICONICS iFixToGwxTranslator utility. Third step is the completion of the display. All conversion steps will be explained in details in the chapter below.

IMPORTANT!

The ICONICS iFixToGwxTranslator utility was specifically designed for conversion of iFix v2.6 picture only. Using this utility for conversion of any other Intellution pictures is not recommended and may result in unexpected behaviour.

3 Conversion Specifics

3.1 Web Converter

Description of Intellution Web Converter utility is out of scope of this document. For any details, please, refer to Intellutions Web Server documentation.

3.1.1 Web Converter Activation

In the iFix Workspace, in the workspace pull down menus, look for "toolbars". Under toolbars, select customize then import. This should activate "webconverter.tbx" & allow you to view the toolbar & convert graphics.

There is also a ReadMe file that comes with Web Server that discusses this.

3.2 iFix To GraphWorX32 Translator

ICONICS iFixToGwxTranslator utility allows for conversion of multiple source files. Select all source files you wish to convert, adjust the destination directory and press *Translate* button to start the conversion process.

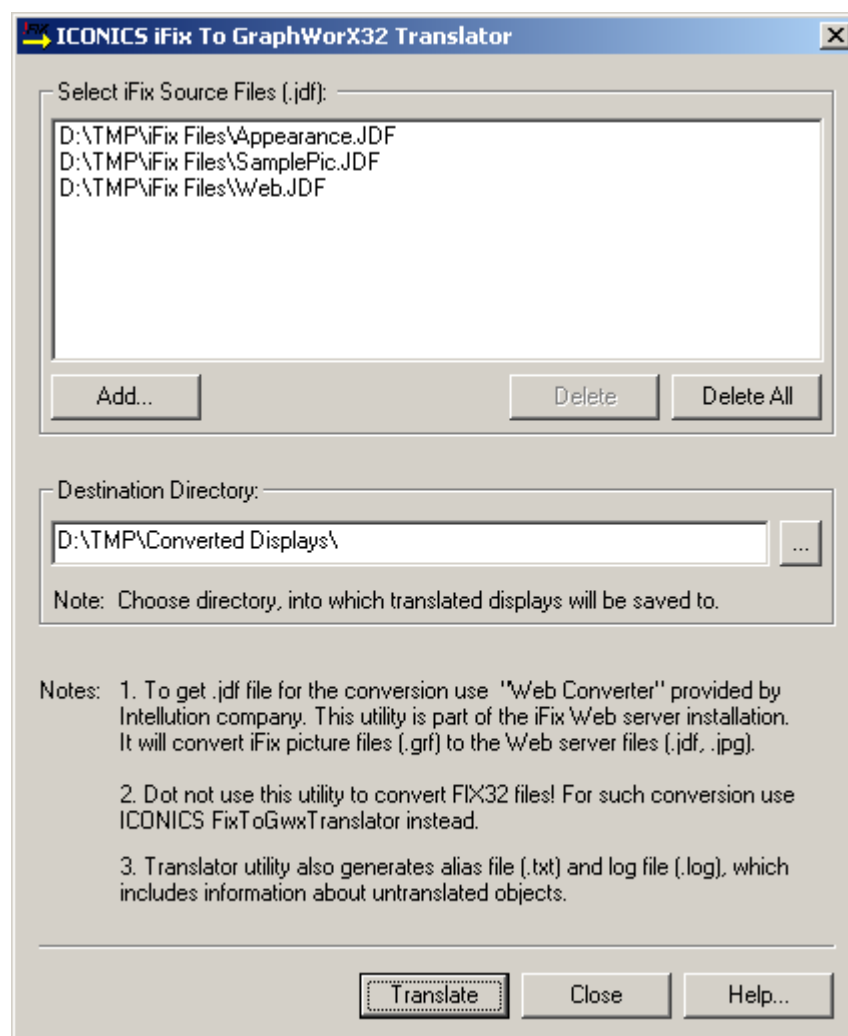


Figure 1: ICONICS iFixToGwxTranslator utility

3.2.1 Source Files

Intellution .jdf files prepared for the conversion are listed in the *Selected iFix Source Files* list box. To add more .jdf files to the list, press *Add...* button. Open file dialog *Select Desired Files* with multiple-selection enabled will be launched. Select desired files and click OK. To remove any file from the list, select the source file and click *Remove* button. By clicking the *Remove All* button, all source files will be removed.

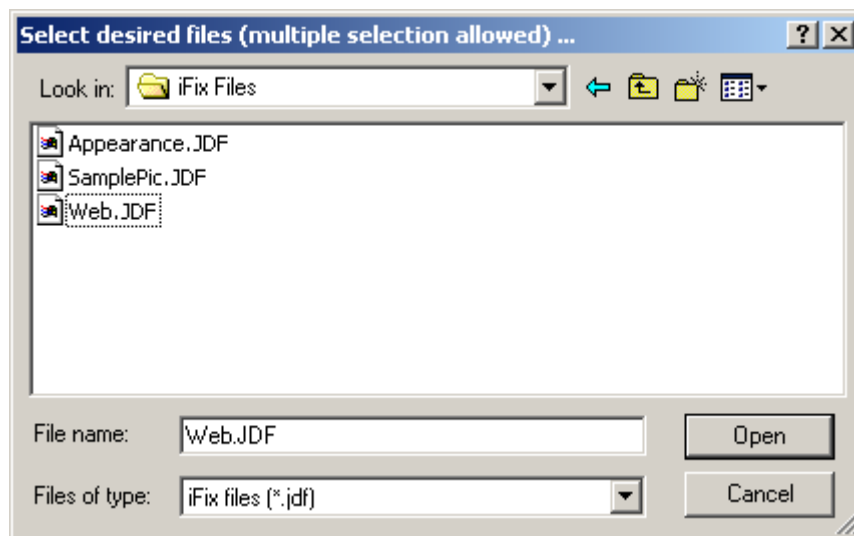


Figure 2: Selection of source files

Note:

Default source directory is set by iFix Workspace. It is the location, where iFix Workspace pictures are saved in. The source directory is saved in the registry key below. Changing this key value will change the default source path for the *Select Desired Files* dialog.

[HKEY_LOCAL_MACHINE\SOFTWARE\Classes\Software\FixDMACS\DESPATH]

3.2.2 Destination Directory

Destination directory is a directory where converted Gwx32 displays will be stored. Change the destination directory by editing the *Destination Directory* field or by "... " button, which allows for selecting different folder.

By default, the destination directory points to the ICONICS working directory.

3.3 Completion of Display Conversion

Even though we tried to provide fully automated conversion of iFix pictures, some operations are required to complete the conversion process. This is due to limitations in the conversion process, resp. conversion limitations of translator utility (see chapter below).

3.3.1 Completing Object Conversion

The ICONICS iFixToGwxTranslator utility is not capable of converting of all static and dynamic picture objects. Some static and dynamic objects are not created or they are just partially converted. Then, it is up to the user to do the conversion or complete partially converted objects.

The incomplete objects will most likely be dynamic objects that are missing their data source. Translator utility leaves data source field empty for those dynamic actions, where the data source expression will be far too complex – not readable/straightforward.

To complete the conversion of such dynamic object means to set its data source, to create the data source expression.

3.3.1.1 Incomplete Display Objects

When any object (either static or dynamic) is created in the display, its name matched the object name stated in the source (.jdf) file. This allows users to search for any specific objects in the display by their names.

Converted display may include some dynamic objects that were not fully converted. These incomplete display dynamics are marked as **"NOT TRANSLATED"**. This sign is filled in the *Share Keyword* field of the static object that the incomplete dynamic is connected to.

This allows for finding the incomplete objects quickly. In the Edit menu of GraphWorX32, select *Find...* to launch Find dialog. In the dialog, select Share Keyword in the *Type* combo, set the scope to Whole Display and search for NOT TRANSLATED keyword. (Consult GraphWorX32 help file for more details.)

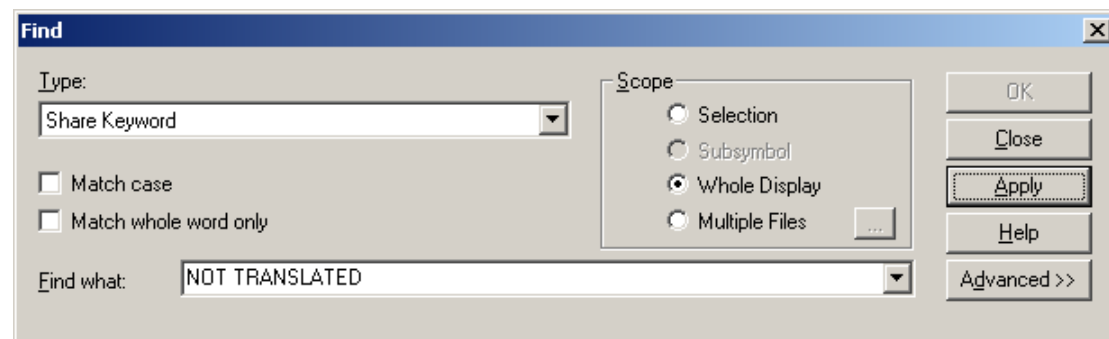


Figure 3: Find dialog in GraphWorX32

3.3.1.2 Display Log Files

For every display, there is a log file generated in the destination directory. The conversion log file has the same file name and includes the list of not converted or partially converted objects. (Eg. Sample1.log is generated for Sample1.jdf.)

The log file that belongs to display lists all conversion problems encountered organized into triplets composed of static object name, dynamic object name and conversion problem description.

It is up to the user to finish conversion of incomplete dynamics or to create yet unconverted objects in the display according to the statements in the log file.

Problem descriptions in the display log file:

Failed to create symbol

- Gwx32 is not capable of creating symbol from one single object only. It requires at least two objects to group them.

Data source not filled in

- Conversion of dynamic object is incomplete. Data source is left out blank.

Failed to import ...

- Image file does not exist or failure importing the image into Gwx32

Failed to create this dynamic action

- Either this dynamic is not supported yet or fatal error appeared.

Display Log File Example:

Conversion Anomalies Log File

Source File: D:\xSOLUTIONS\iFIX\x__Nestle Iowa\AS01.JDF

Destination File: D:\xSOLUTIONS\AS01.gdf

Static Object	Dynamic Name	Conversion Problem Description

Group68	(none)	Failed to create symbol
ValveHorizontalControlE1	(none)	Failed to create symbol
Bitmap16	(none)	Failed to import D:\xSOLUTIONS\iFIX\x__Nestle Iowa\AS01_Group68_Bitmap16_P1.JPG.
Valve2	(none)	Failed to import D:\xSOLUTIONS\iFIX\x__Nestle Iowa\AS01_ValveHorizontalControlE1_Valve2_P1.JPG.
Bitmap8	(none)	Failed to import D:\xSOLUTIONS\iFIX\x__Nestle Iowa\AS01_Group72_Group57_PumpCentrifugalAnimD1_Bitmap8_P1.JPG.
Rect571	AnimatedVisible971	Data source not filled in
Group27	AnimatedVisible1	Data source not filled in
Rect320	AnimatedVisible41	Data source not filled in
Rect364	AnimatedVisible51	Data source not filled in
Text96	AnimatedVisible81	Data source not filled in
Rect509	AnimatedVisible161	Data source not filled in
Text25	AnimatedVisible11	Data source not filled in
Rect277	AnimatedVisible31	Data source not filled in
Text67	AnimatedVisible21	Data source not filled in
Rect475	AnimatedVisible71	Data source not filled in
Text102	AnimatedVisible111	Data source not filled in
Rect453	AnimatedVisible61	Data source not filled in
Text209	AnimatedVisible91	Data source not filled in
Rect557	AnimatedVisible171	Data source not filled in
Group89	AnimatedVisible101	Data source not filled in
End of conversion.		

3.3.1.3 General Log File

Besides display log files that correspond to display files there is general log file created in the destination directory together with other files – "conversion.log". The conversion log file is created every single time the translation utility runs the conversion. If the file already exists, it is overwritten. It contains the conversion results. It means, there is list of all files being converted and the result of every single conversion.

The conversion result in general log file:

"Ok" – conversion successful

"Warning" – source file was converted, but some of picture static or dynamic objects were not converted (or were partially converted). Please, see the corresponding display log file for more details.

"Error!" – severe problem encountered; it may be COM problem or failure in translators parsing engine

Details are provided for both warnings and errors.

General Log File Example:

```
=====
CONVERSION OF MULTIPLE iFIX FILES
LOG INFORMATION
=====
```

Result	Source File Name	Problem Description
Ok	Rect_SizeHorScalePer.JDF	
Ok	Rect_SizeVerScalePer.JDF	
Warning	GW_PRC_TRT_EAU.JDF	For details, see GW_PRC_TRT_EAU.log file.
Ok	TEU_POP_PRC219.JDF	

3.3.2 Resolving Data Tags

Since iFix picture dynamics are configured to use DDE tags as data source and GraphWorX32 display dynamic data sources are based on OPC Tag syntax, the data tag names must be converted as well.

3.3.2.1 Data Tag Resolution Principle

The iFixToGwxTranslator converts DDE tags to 'aliased' OPC Tag format. It takes the DDE tag, splits it into three separate parts, creates aliases out of them, and composes OPC tag based on the newly created three aliases.

Intellution iFIX uses DDE data tag syntax. DDE tag consists of three parts separated by specific delimiters. (Eg. "source1.DEMO:RAMP.F_CV")

First DDE tag part is the nodename: *source1*. Second part is the database configuration name (similar to OPC Server name): *DEMO*. The remaining last part of DDE tag is the actual tag name and its attribute: *RAMP.F_CV*.

The OPC tag similarly contains three separated strings "\\hostname\server\tag".

To make it very simple, each of DDE tag part is separated and wrapped into GWX32 alias delimiters to create an aliased OPC tag. That means that we get an OPC tag in this form "\\<source1>>\<DEMO>>\<RAMP.F_CV>>".

3.3.2.2 Editing Local Aliases

Such alias strings, that compose OPC tags in the display, can be easily replaced with real names for multiple dynamic object tags at the same time. To do so, take advantage of Edit Local Aliases dialog in GraphWorX32 (*Dynamics* menu, select *Edit Local Aliases*).

3.3.2.3 Alias Text Files

Conversion utility also generates the alias (.txt) file together with GraphWorX display file. The alias file is generate per each display converted. Such alias files contain complete list of all alias strings used in the converted display file.

Each line of the alias file consists of two columns, first one is the alias string and the other is to be replaced with the real string (server/group/tag name). You can edit the alias file yourself, or your can utilize the *Local Alias File Editor* available under Tools menu in GraphWorX32.

Conversion of data tags is complete, when converted display is opened together with its alias file. This is so-called dynamic resolution of aliases.