TIBCO Foresight® Instream®

TPARouter

Software Release 8.7
August 2017

Two-Second Advantage®

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Contents

Introduction

Document Purpose

This document is written for those who want to route files to various directories, depending on certain conditions. You will need a basic understanding of TIBCO Foresight® Transaction Insight® and TIBCO Foresight® Instream®.

It describes how to use TPARouter to:

- Automatically move files to certain directories based on
  - Characteristics of the file (filename, file extension and file size)
  - Values in the ISA, GS, or ST (X12 EDI data only)
  - Whether the files contain X12 EDI
- Change the file extension if the file contains X12 EDI
- Append an extension to the existing filename and extension if the file contains X12 EDI

TPARouter.exe is installed in Instream®'s Bin directory.

Steps in setting up routing	See page …
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System Requirements

TPARouter has the same system requirements and runs under the same operating systems as Instream. See **TIB_fsp-instream_<*version*>_readme.txt**.

TPARouter Configuration Files

Overview

Use TIBCO Foresight® Studio or a text editor to create a configuration file describing what files to route, and where they go. See Appendix B: Configuration File Format on page 19 for details.

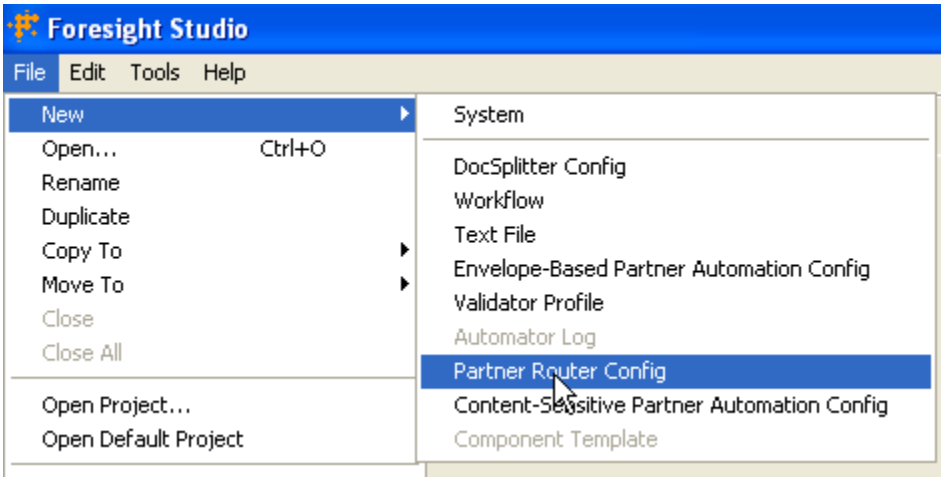
Demo

Script	**TPARouter_810_5040** in Instream's Scripts directory
Configuration file(s)	TPARouter_Sample.cfg (HIPAA) TPARouter_Sample_X12.cfg (X12) in Instream's DemoData directory

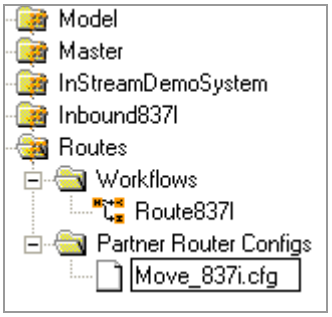
Creating a Configuration File with Foresight Studio

If you have basic familiarity with Foresight® Studio, you will probably find it easier to create the configuration file from within Foresight Studio:

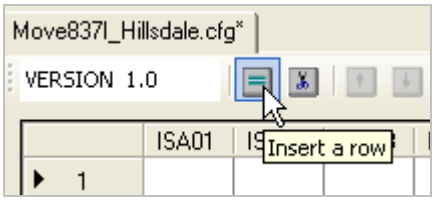
1. In Foresight Studio, open the system that is to have the routing.
2. Choose **File | New | Partner Router Config**.



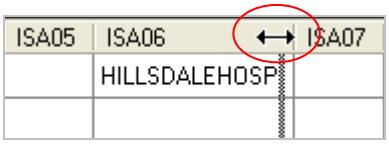
3. Enter a name for the configuration, retaining the file extension **cfg**.



4. Use the **Insert a row** toolbar button:



Adjust the center pane, if you'd like. You can adjust column widths by dragging the splitters in the header line:



Notice the scroll bar at the bottom of the center pane.

All fields are criteria except the last one, RouteDir.

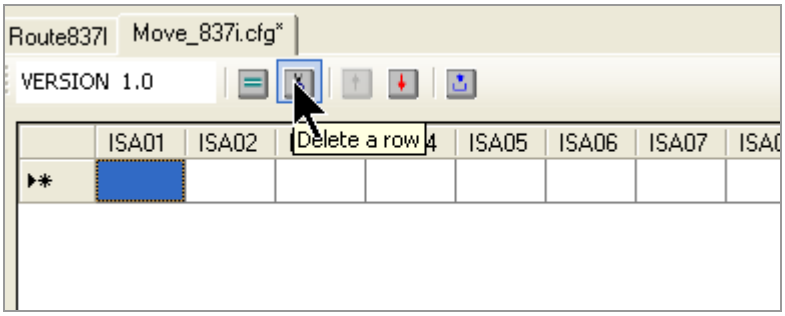
5. Enter your routing criteria, one line at a time. Values are case-sensitive.

   For each line, type values in one or more of the routing criteria cells and then type a directory path in the last cell, RouteDir. This is the directory where the files will move if they match *all* of that line's criteria.

   You can do this in the center pane or in the right pane.

   See Appendix A: Fields in Routing Configuration on page 17 for information about each field.

   The toolbar buttons have pop-up help:

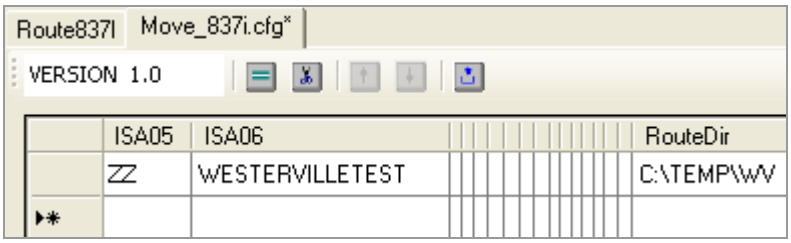


   All criteria in a line must be true for a file to be routed.

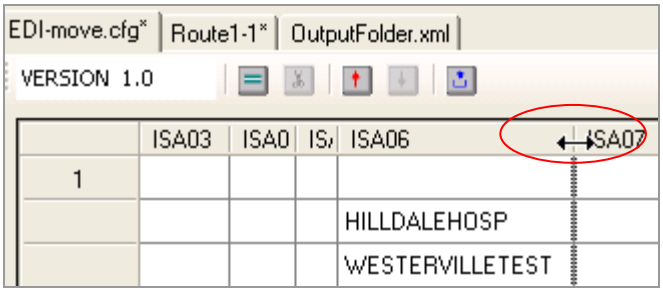
   Example 1. This example will route 837I, 835, and 834 EDI files into separate directories:

GS	GSI	GS08	ST01	Filenar	Extenl	Min(F	Max(Fi	RouteDir
		004010X096A1						c:\temp\837I
		004010X091A1						c:\temp\835
		004010X095A1						c:\temp\834

   Example 2. In this example, the ISA05 must contain ZZ *and* the ISA06 must contain WESTERVILLETEST before the router will move the file to C:\temp\WV.



You can adjust the column widths by dragging the splitters between the columns:

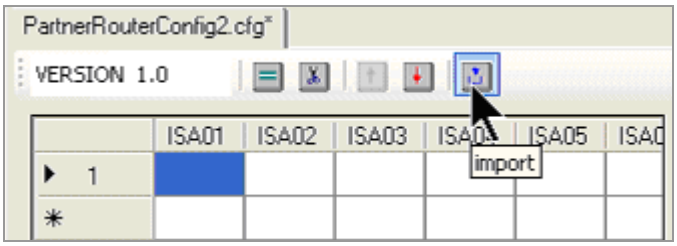


6. When finished, click **Save**.

The configuration file is stored under TIBCO Foresight' Systems*Route*\ PartnerRouterConfig*version* directory.

Importing a Configuration into Foresight Studio

To import an existing configuration into Foresight Studio, start a new configuration and then click the Import toolbar button:



You can practice with TPARouter_Sample.cfg in Instream's DemoData directory. This is a route for HIPAA data.

Creating a Configuration File with a Text Editor

> **Important**
>
> If you do not create the configuration file with Foresight Studio, edit it with a text editor like Notepad. Avoid using a spreadsheet program, which may delete leading zeros, reformat numbers, and otherwise create issues with the content.

1. Go to Instream's **DemoData** directory and copy **TPARouter_Sample.cfg** to the filename and path of your choice. Note the filename and path, since it is used in the TPARouter command.
2. Use a text editor to edit the new file.

   See Appendix A: Fields in Routing Configuration on page 17 for information about each field.
3. Add a line for each scenario for which you want to specify a route, as explained above.

   You cannot use variables in the config fields. The paths must be literals.

   Omit trailing spaces in data values.
4. Save as a text file.

How TPARouter Matches

- Only the first ISA, GS, or ST is considered while matching. Others in the same file are ignored. Use DocSplitter to split up files if necessary.
- If the target file does not match any criteria in the configuration file, the target file will not be moved.
- If even one criterion does not match in a row, the row will not be considered a match.
- If only one row is found to be a match, the target file will be moved to the RouteDir specified at the end of the row.
- If two or more rows match and have the same number of criteria, the first row will be used to route a file.
- If two or more rows in the configuration file match, the row with the largest number of criteria will be used to route a file. For example, if a file matches both of these lines, it will use the second one, which contains three values:

```
,,,,,,,,,,T,,12345,,,,,,,,C:\Temp\Router\gS02_12345
,,,,,,,,,,T,,12345,67890,,,,,,,C:\Temp\Router\gS03_67890
```

- You can include a default route as the last row in the configuration file. This will have no routing criteria or other specifications except a routing directory. If a match is not found using any of the preceding rows, this row will be used to route the target file. In the example below, if a match is not found using the first two rows, the file will be routed to directory C:\Temp\Router\default_route.

```
,,,,,,,,,,,12345,,,,,,,,C:\Temp\Router\gS02_12345
,,,,,,,,,,,12345,67890,,,,,,,C:\Temp\Router\gS03_67890
,,,,,,,,,,,,,,,,,,,C:\Temp\Router\default_route
```

Running TPARouter

Running TPARouter from a Command Line

Command lines that route files can have one of these formats:

TPARouter -i*InputFile* **-c***ConfigFile*
TPARouter -i*InputFile* **-eX12 -o***OutputPath*

Command lines that rename EDI files have this format:
TPARouter -i*InputFile* **-o***OutputPath* **-eX12 -rn***NewExt* **-append**

Parameter	Explanation	Example
-i	Required **Input**. Directory and filename of the input file; filename cannot contain wildcards.	`-i"c:\start\file1.edi"`
-c	Required unless there is an **-e** and **-o** option **Configuration**. Path and filename of the configuration file. -c cannot be used with the -e, -o, or -rn parameters	`-c"c:\cf\Route1.cfg"`
-eX12 **-eUN**	Required if there is an **-o** or **-rn** option **X12** Check to see if the file contains X12 EDI. **UN** Check to see if the file contains EDIFACT EDI. Only the first few segments are checked. Either -e parameter requires the -o parameter.	`-eX12`
-o	Required if there is an **-e** option **Output**. Directory where the file is to be moved if: -eX12 finds that it contains X12 EDI. -o requires the -eX12 parameter.	`-o"c:\EDI"`
-b0	Optional Path and name of an additional file to route along with the file in the -i option.	`-b0"c:\results\file1.dtl"`
-append	Optional Requires the `-rn` option **Append** the extension to the existing file and extension. If omitted, the extension specified in –rn replaces the existing extension.	`-rn noedi -append` Example: Orig. name: `File.txt` New name: `File.txt.noedi`
-d	Optional Debug	

-rn	**Rename**. Change the extension to that specified with `-rn` if -eX12 finds that it does not contain X12 EDI. Requires the **-e** option	`-rn noedi`

Example 1. Route file1.edi according to the routing directions in RouterConfig1.cfg.

```
"c:\InStream\Bin\TPARouter.exe" -i"c:\start\file1.edi"
-c"c:\InStream\DemoData\RouterConfig1.cfg"
```

Example 2. Move file1.edi to `c:\EDI if it contains` X12 EDI.

```
"c:\InStream\Bin\TPARouter.exe" -i"c:\start\file1.edi"
-eX12 -o"c:\EDI"
```

Example 3. If file1.txt contains EDI, move it to c:\EDI. If not, rename it to file1.txt.noedi.

```
"c:\InStream\Bin\TPARouter.exe" -i"c:\start\file1.txt" -eX12  -rn noedi
-append -o"c:\EDI"
```

TPARouter and Foresight Studio

Running TPARouter from a Foresight Studio workflow

1. Create a workflow that includes the TPARouter component:
2. Under Schedule Parameters for the TPARouter component, point to the configuration file that should be used. If you created it with Foresight Studio, it should already have the correct path.
3. Include at least:
   - An input folder where TPARouter will pick up files.
   - The TPARouter component.
   - A folder for files that don't match any line in the configuration.

   The output folders identified in the configuration do not have to be in the workflow unless needed by other components.

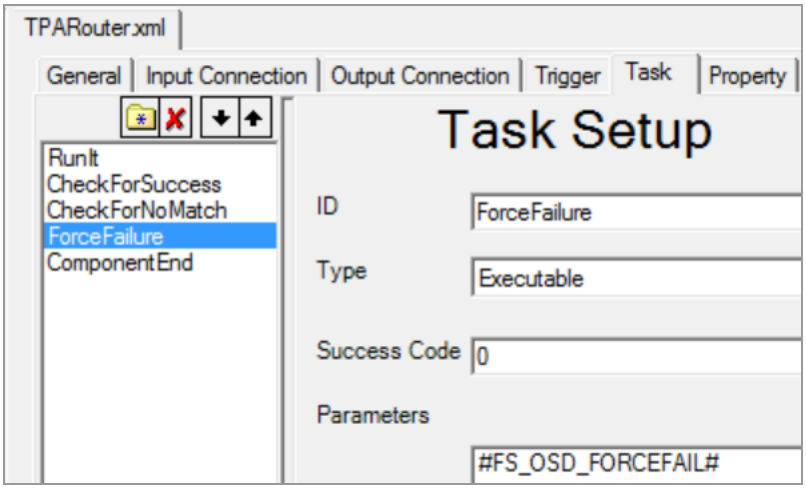
Please see the Routes system, explained below, for an example.

FS_OSD_FORCEFAIL

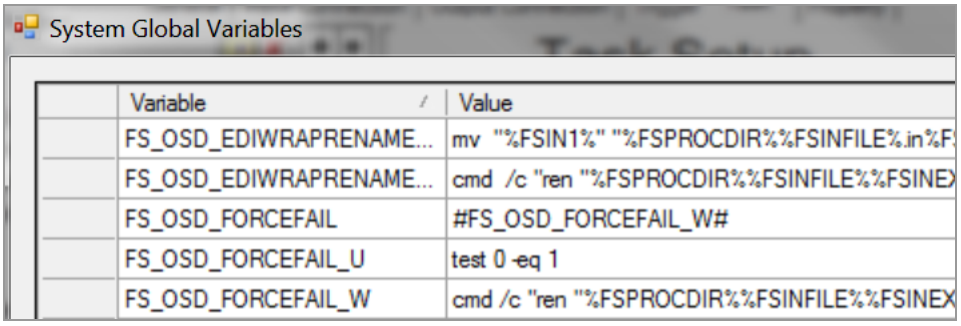
(This section is for the curious. Normally, you do not need to concern yourself with FORCEFAIL. It has been pre-configured for you.)

The workflow variable FS_OSD_FORCEFAIL is used in TPARouter to make the component realize that TPARouter failed to act on a file if, for example, there was a problem with the input file or configuration.

The TPARouter component template calls it after it has tested the TPARouter return code and found that they were not 0 (found match and moved) or -6 (didn't match). This means there was another problem and so the workflow considers the whole attempt at this file a failure and moves everything to the component's Error directory in the workflow.



It does this by invoking the workflow variable FS_OSD_FORCEFAIL, which has a test that is guaranteed to fail for Windows and for Unix. For Windows, it is "does 0 equal 1?" and for Unix it is trying to rename a file to itself.



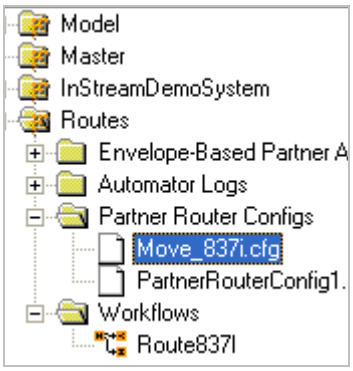
Example Routes System

The example Routes system demonstrates the routing capabilities of Foresight Studio. It contains two main elements:

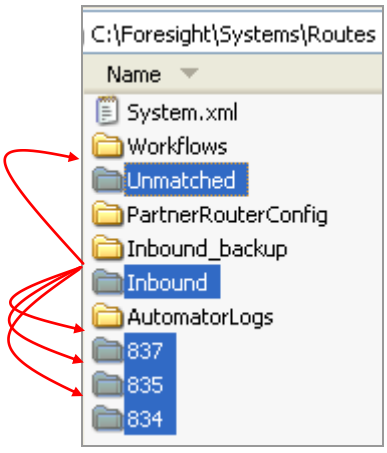
- A routing configuration file called Move_837i.cfg
- A workflow called RouteEDI

The Configuration File

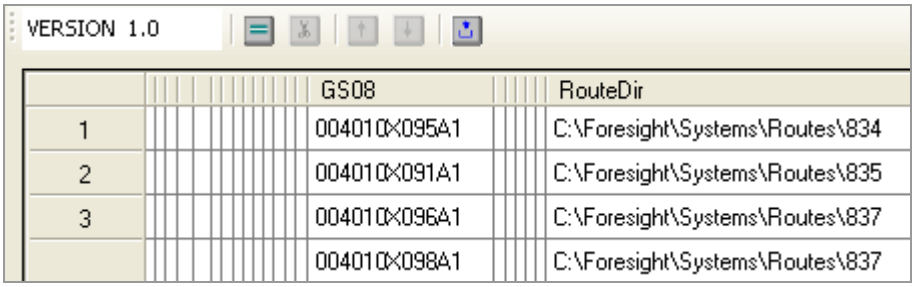
Open the Routes system's configuration file:



This configuration file and workflow move files from Inbound to 834, 835, 837, or Unmatched, depending on the contents of their GS08:



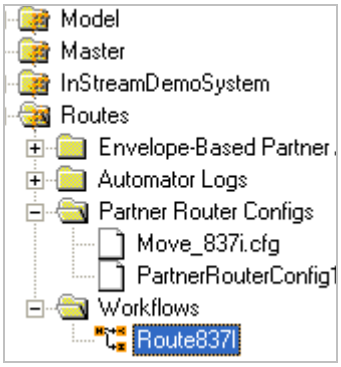
Notice the possible routes, depending on the contents of each file's GS08:



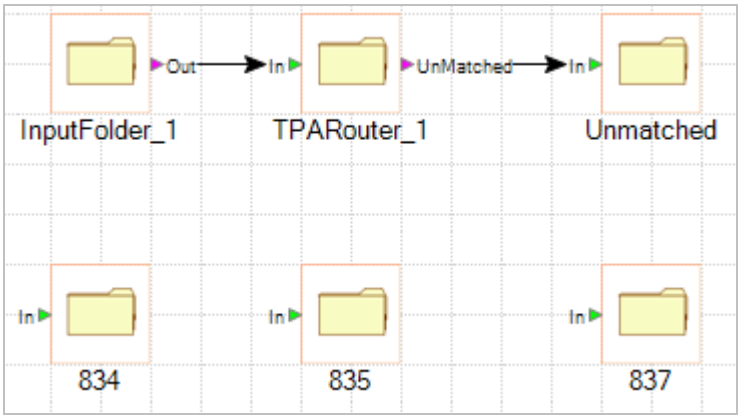
	GS08	RouteDir
1	004010X095A1	C:\Foresight\Systems\Routes\834
2	004010X091A1	C:\Foresight\Systems\Routes\835
3	004010X096A1	C:\Foresight\Systems\Routes\837
	004010X098A1	C:\Foresight\Systems\Routes\837

Understanding the Example Workflow

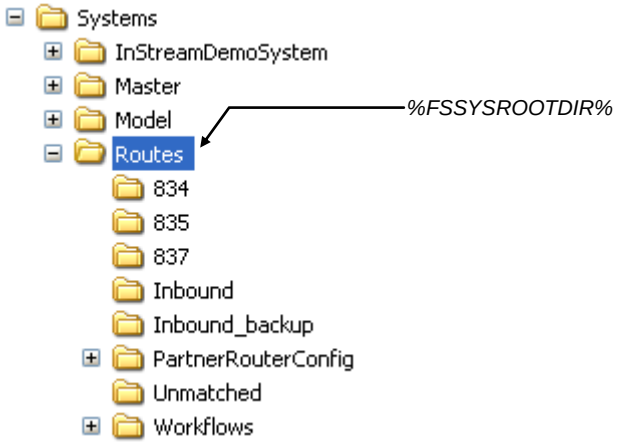
Open the Routes system's workflow, Route837I:



The workflow has these components:



Files in this workflow are in these directories:



The workflow's big steps include:

1. This workflow starts with a mixed group of files in a directory called **Inbound**.

   All directories are under the Routes system.

2. **TPARouter_1** runs TPARouter, which checks each file to see if it contains EDI.

   If it does not contain EDI, the file goes to directory **Unmatched**.

   If it does contain EDI, it goes to directory **834**, **835**, or **837**, as specified in the configuration file.

   EDI files that are other transactions are sent to the Unmatched directory.

The destination directories for the 834s, 835s, and 837s do not have to be in the workflow. If they were in the workflow, they would NOT have connecting lines from the TPARouter component.

This table shows the parameters for each component in the sample Routes workflow.

Component in Example	Parameters
InputFolder_1 This is an input folder containing an assortment of files.	**Component Name** Name: InputFolder_1 **Schedule Parameters** Directory: **C:\Foresight\Systems\Routes\Inbound** FileExtension: * Frequency: 5
TPARouter_1 This checks files and sends them to one of the EDI directories or to the Unmatched directory, based on the contents of Move_837i.cfg.	**Component Name** Name: TPARouter_1 **Schedule Parameters** TPARouterConfig: **%FSSYSROOTDIR%PartnerRouterConfig\1.0\Move_837i.cfg**
Unmatched This component is an output folder to hold files that are not 834s, 835s, or 837s.	**Component Name** Name: Unmatched **Schedule Parameters** Directory: **C:\Foresight\Systems\Routes\Unmatched**

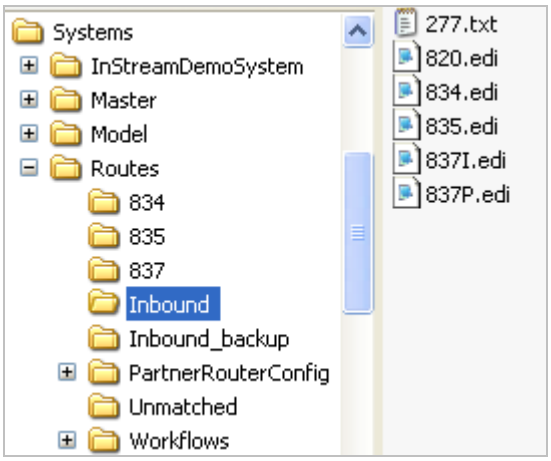
834 **835** **837** These input folders receive EDI files from TPARouter_1 if they are 834s, 835s, and 837s.	**Component Name** Name: 834 **Schedule Parameters** Directory: **C:\Foresight\Systems\Routes\834**

Running the Example Workflow

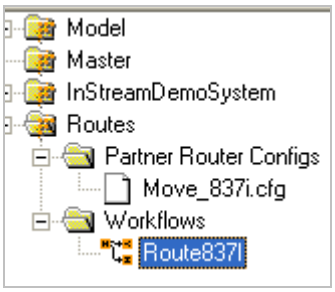
If you installed to C:\Foresight, you can run the example workflow without changing it. If not, check the paths in the workflow and the configuration file.

1. Check the **Inbound** directory under Routes to be sure it contains the sample files.

   If not, copy them from the Inbound_backup directory.



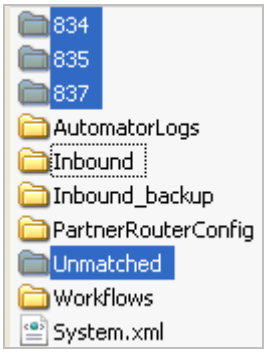
2. Open the Route837I workflow:



3. Turn on logging by clicking the Log toolbar button until it turns green:

4. Start the workflow:

5. After TPARouter_SeparateEDI executes, the files should have moved from the **Inbound** directory to one of these:



6. Stop the workflow.

Appendix A: Fields in Routing Configuration

All fields are case sensitive.

Field	Heading	Meaning
1	ISA01	Value in the first ISA01 in the input file.
2	ISA02	Value in the ISA02. Do not include trailing spaces used for padding.
3-11	ISA03 - ISA15	Value in the ISA elements. Do not include trailing spaces used for padding.
12-15	**GS01**, GS02, GS03, **GS08**	Value in the GS element. Required and must be correct: GS01, GS08
16	ST01	Value in the ST01.

17	Filename	The input file's name without the extension.
		This can include a wildcard. Examples:
		`File*`
		`837*`
		`*837`
		The file does not have to contain EDI.

Field	Heading	Meaning

18	Extension	The input file's extension.
		This can include a wildcard. Examples:
		`File*`
		`t*`
		`*edi`
		The file does not have to contain EDI.

19	Min	Minimum file size in kilobytes. Use Min and Max together. If the file has a size between Min and Max (inclusive), it will be routed. One good use of this feature: It lets you move very large files to a separate directory for processing later. **Example 1**. This routes a file if its size is between 0K and 20K: Min is 0 Max is 20 **Example 2**. This routes a file if its size is 20K and greater: Min is 20 Max is 0 **Example 3**. This routes all file sizes Min is 0 Max is 0 The file does not have to contain EDI to match on these criteria.
20	Max	Maximum file size in kilobytes. Use with Min. Files of this size and smaller will be routed. 0 means an unlimited maximum size. See the examples under Min.
21	RouteDir	Directory where the file is to be moved if it matches all criteria. Surround it with double quotes if it contains spaces. This value can include Windows environment variables. The file does not have to contain EDI to match on these criteria.

Appendix B: Configuration File Format

Overview

The configuration file is comma-delimited and has two header lines, which should not be changed.

All other lines contain routing directions.

Header Lines

The first header line is the config file version and the second is a list of headings, separated by commas.

```
VERSION  1.0
```

```
ISA01,ISA02,ISA03,ISA04,ISA05,ISA06,ISA07,ISA08,ISA11,ISA13,ISA15,GS01,
GS02,GS03,GS08,ST01,Filename(wildcard),Extension(Wildcard),Min(Filesize),
Max(Filesize),RouteDir
```

The second line above displays as wrapped in this manual but is actually on one line in the configuration file.

Routing Directions

Your routing directions start on line three and include:

- **Selection criteria** - Values in the file, or characteristics of the file such as size, name, or extension. You must include one or more selection criteria. For each file, TPARouter looks through all selection criteria on all lines and picks the one that is the best match. If two equal matches are found, the first one is used.
- **Directory** - The last entry in each line must be a directory where a file will go when it matches the selection criteria. You can use environment variables in the configuration file. These are detailed in **ForesightStudio.pdf**.

Example

In the example below, the TPARouter should check the GS08 of the input file and send it to the directories shown:

```
VERSION  1.0
ISA01,ISA02,ISA03,ISA04,ISA05,ISA06,ISA07,ISA08,ISA11,ISA13,ISA15,GS01,GS02,GS03,GS08,S
,,,,,,,,,,,,,004010X096A1,,,,,,C:\Temp\837
,,,,,,,,,,,,,004010X097A1,,,,,,C:\Temp\837
,,,,,,,,,,,,,004010X098A1,,,,,,C:\Temp\837
,,,,,,,,,,,,,004010X092A1,,,,,,C:\Temp\271
,,,,,,,,,,,,,004010X093A1,,,,,,C:\Temp\276
```

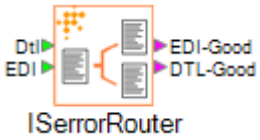
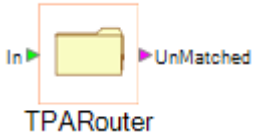
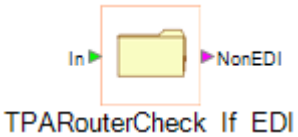
Each routing line contains values used to select files. Use commas for placeholders where there is no value.

The last entry in each routing line is mandatory and tells where to put the file that matches all of the values.

```
,,,,,,,,,,T,,12345,67890,,,,,,,C:\Temp\Router\gS03_67890
```

Routing criteria *Route*

Appendix C: Foresight Studio Routing Components

	Uses ISErrors.exe to check the DTL file for validation errors. You can use a setup file to adjust severities and types to be considered. If it contains at least one error, the file is routed to the directory specified by the BadDirectory parameter. If it does not contain errors, it goes to the next component in the workflow. Please see **ISErrors.pdf** for details. Parameters: **BadDirectory** Directory to receive EDI and DTL files containing errors **SetupFile** Path and filename for ISErrors setup file
	Runs TPARouter.exe to route files to different directories according to the specifications in a router configuration file. Parameter: **TPARouterConfig** Path and name of the TPARouter configuration file
	Runs TPARouter.exe to check the first few lines of the file. If it contains EDI, it routes it to the directory specified by the ValidEDI_Dir parameter. If it does not contain EDI, the file is routed to the next component in the workflow. Parameter: **ValidEDI_Dir** Where to send EDI

Appendix D: Return Codes

Return Code	Meaning
0	No error.
1	Bad parameter supplied.
2	File not found.
10	INI file parsing error.
30	Problem parsing Instream results file.
35	Error in standard C++ library.
40	Error creating HTML output.
50	Unknown error.

Seeing Return Codes

To display return codes when you run a script, put this line similar to this in the script right after running the program:

UNIX echo "return code = " $?

Windows @echo [Return Code = %ERRORLEVEL%]

This returns something like: `[Return Code=100]`

Virus Checking and Foresight Products

Exclude all TIBCO Foresight workflow subdirectories from virus checking.