

TIBCO Foresight[®] Transaction Insight[®]

Matching Documents in Transaction Insight[®]

*Software Release 5.2
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Two-second advantage[®]



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TIBCO Software Inc. Confidential Information

General Contact Information

TIBCO Software Inc.
3303 Hillview Avenue
Palo Alto, CA 94304 USA
Tel: +1 650 846 1000
Fax: +1 650 846 1005

Technical Support

E-mail: support@tibco.com
Web: <https://support.tibco.com>

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1 Introduction

Intended Audience

This document is intended for developers or business analysts who are setting up document matching in TIBCO Foresight® Transaction Insight®.

Setting up matching is an advanced activity that involves knowledge of guidelines, TIBCO Foresight® Instream®, Transaction Insight® administration, and databases.

System Requirements

TIMatcher works with the Transaction Insight database, not the other portal databases.

See **TIB_transactioninsight_<n.n>_readme.txt** for information about system requirements.

Like-to-Like Transaction Type Matching

TIMatcher can match two separate application documents that are of the same transaction type.

Example: A corrected document that has been imported back into Transaction Insight could be matched to the original.

If you are interested in this functionality, ask your TIBCO Foresight Account Representative about contracting TIBCO to provide matching rules for your environment.

Overview of Document Matching

For each DTL file that it processes, TIMatcher stores potential matching information in the Transaction Insight database. TIMatcher also checks data from other files it has processed to try to find documents that match the one on its command line.

When a user displays a Document Summary page for a document that has one or more matches, this information is shown in the Related Documents area at the bottom of the page. This display is enabled with this setting in Web.config: `<add key="Matching" value="true" />`.

By default, Transaction Insight can match these pairs of documents:

4010A

All transactions can match to 997

Additional matches (require customization):

270 ↔ 271

276 ↔ 277

278RQ ↔ 278RP

835 ↔ 837

5010

All transactions can match to 999

Additional matches (require customization):

270 ↔ 271

276 ↔ 277

278RQ ↔ 278RP

837 ↔ 835, 277CA

850 ↔ 210, 810, 820, 855, 856, 860

855 ↔ 810, 820, 856, 860

856 ↔ 810, 820, 860

860 ↔ 810, 820

The documents can be imported into Transaction Insight in any order. For example, the 999 can be imported before the 837 and they could still be matched the next time TIMatcher runs.

Once documents are matched, you can see them in the Related Documents section at the bottom of the Document Summary page.

This example document summary for an 835 shows two matching 837P claims at the bottom. Its Submitter Identifier is a link to the 837P's summary pages.

Document Summary for: 835+W4S12-ARS-DOC8-TM7

Transmission Name: 835+W4S12-SoTF-TM7.edi
Transmission Date: 5/9/2017 8:19 AM
Standard: HIPAA/X12
Version: 5010
Transaction Set: 835
Document Date: 9/23/2015 4:15 PM
Sender: Health Insurance
Receiver: Health Provider
Dollar Amount: \$8,453.37

[Click here to View the document](#)

Instream Error Summary

Version: 8.6.0 [Build 008r(64 bit): 08/02/2016]
APF File: \$Custom.apf (version 8.6.0)
Error File: CustomerFSBRERRS.TXT
Error File: FSNERRS.TXT (version 8.6.0)
Error File: FSBRERRS.TXT (version 8.6.0)
Guideline: PDSA5010835-ZREC
Code Table: fs_hipaa.dat (version 8.6.0.20)

Original Document Name: 835+W4S12-SoTF-TM7.edi
Original Document Date: 5/9/2017 8:19 AM

Message:
☒ EDI
 ☐ Non-Technical
 ☐ Institutional
 ☐ Professional
 ☐ Dental

Document Errors: -- 2

Error	Severity	Type	Description
42520	Error - 3	5	The Social Security Number must match the pattern 123456789 and have no special characters.
42520	Error - 3	5	The Social Security Number must match the pattern 123456789 and have no special characters.

External Notes

Related Documents

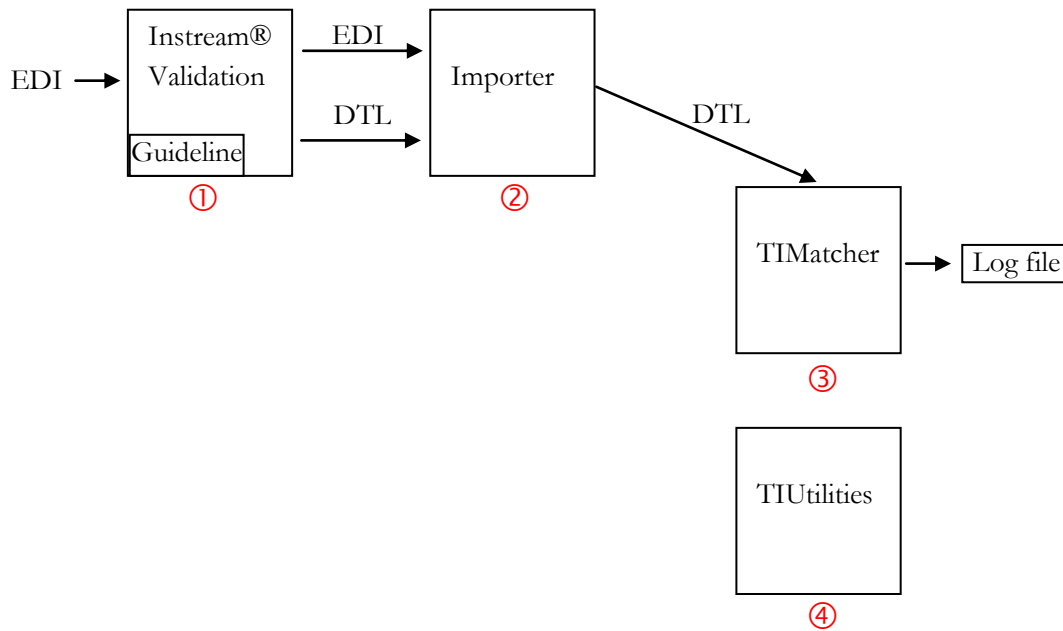
Connects	Submitter Identifier	Location	Transaction Set	Version	Submission Date
From	837P+P1_S6_PAT8_C8-W4S12-ARS-TM7	Claim	837P	5010	5/9/2017 8:19:30 AM
From	837I+P1_S2_PAT3_C8-W4S12-ARS-TM7	Claim	837I	5010	5/9/2017 8:19:21 AM

Show records per page

Matching can occur between application documents, which match if certain data values are equivalent.

An application document is a certain looping level in a transaction. In an 837, for example, the document is the 2300 or claim level. In an 835, the document is the ST. Please see **ApplicationDocTables**.

Where TIMatcher Fits



- ① EDI is validated with a guideline that puts IDENT records in the DTL file to mark the document levels.
- ② EDI and DTL files are sent to Importer to be imported into the Transaction Insight database.
- ③ Later, after importing, the DTL file is sent to TIMatcher, which checks the database for other documents that match it. Depending on the log settings, TIMatcher produces a log file for each DTL file it processes.
- ④ You can see the matching documents at the bottom of the Document Summary pages.

Major Steps

Step	Use ...	See ...
1. Validate	Instream DTL file must have IDENT records	FSUID_and_AppDocs.pdf
2. Import	Importer	Importer.pdf
3. Match	TIMatcher	This document

Sample Data and Demo

Demo Data

Transaction Insight's DemoData directory contains these files for matching practice. You can validate, import, and match them with the matching demo workflow.

File	Description
5010_837P_Match1.edi	Inbound 837P from HILLSDALEHOSP to HORIZONE Outbound 835 and 999 responses to 837P
5010_835_Match1.edi	
5010_999_Match1.edi	
5010_837P_Match2.edi	Inbound 837P from HILLSDALEHOSP to HORIZONE. Outbound 835 response to 837P
5010_835_Match2.edi	
4010_270_Match3.edi	Inbound 270 from HILLSDALEHOSP to HORIZONE Outbound 271 response to 270
4010_271_Match3.edi	
5010_276_Match4.edi	Inbound 276 from HILLSDALEHOSP to HORIZONE Outbound 277 response to 276
5010_277_Match4.edi	

Demo Workflow

To run the demo workflow:

1. Copy a set of the match examples from Transaction Insight's DemoData directory, such as:

```
5010-999_Match1.edi  
5010-837P_Match1.edi  
5010-835_Match1.edi
```

2. Paste them in Foresight's **Systems**\environment\environmentMatcherDemo\In directory.

3. Execute the Matcher demo workflow in one of these ways:

From Foresight TIBCO Foresight® Studio

Execute *environment*MatcherDemo in the environment's workflows

From the command line Execute *environment*MatcherDemo.cmd (.sh) in Automator's Bin directory.

4. After all workflow components have executed, you can stop the workflow.
5. Log on to Transaction Insight as an administrator with All Partners permission and find the transmissions under Test Data.
6. Go to the Summary Page for one of the documents and look at the Related Documents section at the bottom.
Click a link in the Submitter Identifier column to go to that document's Summary page.
7. To view TIMatcher's log files, go to the System's **Out** directory and look for files ending with **timatcher.log**. By default log files are only created when errors occur.

2 Setting up Matching

Guideline for Validation

The guideline must generate a DTL file with Foresight Unique IDs (FSUIDs) at the document level. Please see **FSUID_and_AppDocs.pdf** for instructions.

Other File Modifications

File	Modification
Validation apf file	Put IDENT=1 in the [Detail Record Output] section of the validation profile (APF file) used when validating
Web.config	This value should be set to true in the appSettings section: <code><add key="Matching" value="true" /></code>

3 Matching Criteria

Matching Levels

Matches are made between application documents. The Document Summary page shows information about one application document. The Related Documents area at the bottom shows application documents that match it.

However:

- Matching criteria don't always come from within the application document. They can come above it. See [Matching Criteria Chart](#) on page 12 for information about matching criteria.
- The example on page 11 shows an 837 with two application documents. Information from above the application documents is being used to help match to the 835.
- One application document can match one or more other application documents.
- The example on page 11 shows two 837 application documents (CLM loops) matching one 835 application document (ST level). The 835 might have CLPs for claims in many files. It can match them all.

There are two different levels to consider in matching:

- Document level - the application document for this transaction. Please see **ApplicationDocTables.pdf**.
- Match level - where the matching takes place. See the chart below.

5010			
Trans	Matching Level	Document Level	Notes
270	2000C or 2000D	2000C or 2000D	
271	2000C or 2000D	2000C or 2000D	
276	2200D or 2200E	2200D or 2200E	
277	2200D or 2200E	2200D or 2200E	
277CA	2200D	2000D	
278	2000C or 2000E	2000C or 2000E	
834	2000	2000	
835	2100	ST	
837 D,I,P	2300	2300	
999	ST	ST	
Non- HIPAA: 210, 810, 820, 850, 855, 856, 860	ST	ST	
4010A			
Trans	Matching Level	Document Level	Notes
270	2000C or 2000D	2000C or 2000D	
271	2000C or 2000D	2000C or 2000D	
276	2200D or 2200E	2200D or 2200E	
277	2200D or 2200E	2200D or 2200E	
278	2000C or 2000E	2000C or 2000E	
835	2100	ST	Multiple matches possible for each ST document
837 D,I,P	2300	2300	
997	ST	ST	

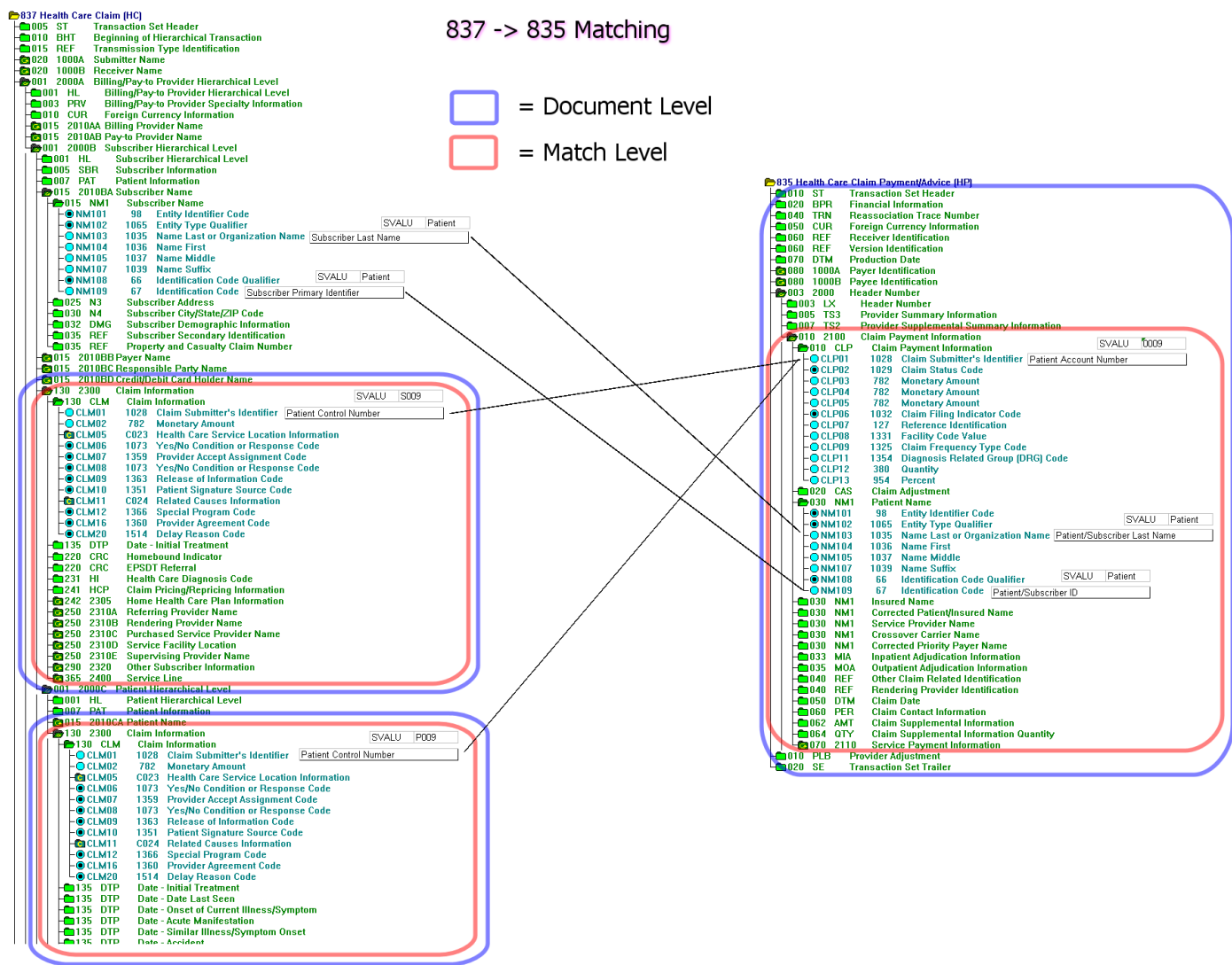
Example

In an 835, the “document” is the ST level. Each ST may have many 2100 loops, and these are the entities that will match the 2300 loop in an 837. This means when you look at an 835’s Document Summary page, you might see many 837 documents listed in the Related Documents area - one for each matching 2100-2300 loop.

Likewise, when you look at an 837 document (a CLM loop) Document Summary page, you may see an 835. That same 837 might show up if you open another CLM in the same file.

Matches must be made at or below the document level (This is for performance reasons).

Here is an example of some of the criteria used to match the 837 to the 835. Note how the document level of the 835 is the ST but the matching is actually done at the 2100 or claim payment level.



Matching Criteria Chart

Please see **DefaultMatchingLayout_<n.n>.pdf** in Transaction Insight's Documentation directory to see what elements are used to match between transactions.

ALL criteria listed must be the same if the documents are to match.

Each line in the chart shows a **From** document (an initiating document like an 837) and a **To** document (a response to it). The file uses colors to distinguish between the From and the To document.

From 270 To 271

From	4010A	270					To	4010A
Name	Path	SVALU	Seg	Elem	Qual		Name	Path
Submitter Transaction Identifier	ISA/GS/ST	0021	BHT	03			Submitter Transaction Identifier	ISA/GS/ST
Trace Number	ISA/GS/ST/2000A/2000B/2000C	SUBTRN	TRN	02			Trace Number	ISA/GS/ST/2000A/2000B/2000C
Trace Number	ISA/GS/ST/2000A/2000B/2000C/2000D	DEPTRN	TRN	02			Trace Number	ISA/GS/ST/2000A/2000B/2000C
Trace Number	ISA/GS/ST/2000A/2000B/2000C	SUBTRN	TRN	02			Trace Number	ISA/GS/ST/2000A/2000B/2000C/2000D
Trace Number	ISA/GS/ST/2000A/2000B/2000C/2000D	DEPTRN	TRN	02			Trace Number	ISA/GS/ST/2000A/2000B/2000C/2000D
Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C	SUBTRN	TRN	03			Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C
Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C/2000D	DEPTRN	TRN	03			Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C
Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C	SUBTRN	TRN	03			Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C/2000D
Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C/2000D	DEPTRN	TRN	03			Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C/2000D
Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2100C	SUBREF	REF	02	01	EJ	Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2100C
Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2000D/2100D	DEPREF	REF	02	01	EJ	Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2100C
Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2100C	SUBREF	REF	02	01	EJ	Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2000D/2100D
Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2000D/2100D	DEPREF	REF	02	01	EJ	Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2000D/2100D
Subscriber ID	ISA/GS/ST/2000A/2000B/2000C/2100C	SBNM	NM1	09			Subscriber ID	ISA/GS/ST/2000A/2000B/2000C/2100C
Subscriber Last Name	ISA/GS/ST/2000A/2000B/2000C/2100C	SBNM	NM1	03			Subscriber Last Name	ISA/GS/ST/2000A/2000B/2000C/2100C

In this example, the From document (circled below) is a 4010A 270 and the To document is a 4010A 271 (shown on the next page). In the actual pdf, these are next to each other to indicate match criteria between 270 and 271.

From	4010A	270				
Name	Path	SVALU	Seg	Elem	Qual	
① Submitter Transaction Identifier	ISA/GS/ST	0021	BHT	03		
② Trace Number	ISA/GS/ST/2000A/2000B/2000C	SUBTRN	TRN	02		
Trace Number	ISA/GS/ST/2000A/2000B/2000C/2000D	DEPTRN	TRN	02		
Trace Number	ISA/GS/ST/2000A/2000B/2000C	SUBTRN	TRN	02		
Trace Number	ISA/GS/ST/2000A/2000B/2000C/2000D	DEPTRN	TRN	02		
Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C	SUBTRN	TRN	03		
Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C/2000D	DEPTRN	TRN	03		
Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C	SUBTRN	TRN	03		
Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C/2000D	DEPTRN	TRN	03		
Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2100C	SUBREF	REF	02	01	EJ
Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2000D/2100D	DEPREF	REF	02	01	EJ
Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2100C	SUBREF	REF	02	01	EJ
Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2000D/2100D	DEPREF	REF	02	01	EJ
Subscriber ID	ISA/GS/ST/2000A/2000B/2000C/2100C	SBNM	NM1	09		
Subscriber Last Name	ISA/GS/ST/2000A/2000B/2000C/2100C	SBNM	NM1	03		

This shows that 6 pieces of information must match between the 270 and the 271. They are:

- ① The Submitter Transaction Identifier, which is the BHT03 in the 270 and 271.
- ② The Trace Number, which can match in one of four ways.
- ③ The Trace Assigning Entity Number, which can match in one of four ways.
- ④ The Patient Account Number, which can match in one of four ways.
- ⑤ The Subscriber ID from the 2100C NM109 in each transaction.
- ⑥ The Subscriber Last Name from the 2100C NM103 in each transaction.

To	4010A	271				
Name	Path	SVALU	Seg	Elem	Qual	
① Submitter Transaction Identifier	ISA/GS/ST	0021	BHT	03		
② Trace Number	ISA/GS/ST/2000A/2000B/2000C	SUBTRN	TRN	02		
Trace Number	ISA/GS/ST/2000A/2000B/2000C	SUBTRN	TRN	02		
Trace Number	ISA/GS/ST/2000A/2000B/2000C/2000D	DEPTRN	TRN	02		
Trace Number	ISA/GS/ST/2000A/2000B/2000C/2000D	DEPTRN	TRN	02		
③ Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C	SUBTRN	TRN	03		
Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C	SUBTRN	TRN	03		
Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C/2000D	DEPTRN	TRN	03		
Trace Assigning Entity Number	ISA/GS/ST/2000A/2000B/2000C/2000D	DEPTRN	TRN	03		
④ Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2100C	SUBREF	REF	02	01	EJ
Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2100C	SUBREF	REF	02	01	EJ
Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2000D/2100D	DEPREF	REF	02	01	EJ
Patient Account Number	ISA/GS/ST/2000A/2000B/2000C/2000D/2100D	DEPREF	REF	02	01	EJ
⑤ Subscriber ID	ISA/GS/ST/2000A/2000B/2000C/2100C	SBNM	NM1	09		
⑥ Subscriber Last Name	ISA/GS/ST/2000A/2000B/2000C/2100C	SBNM	NM1	03		

Columns include:

Name	Name of the element containing the value that must match between the two documents.
Path	Loop sequence to the segment containing the value.
SVALU	The structure ID that marks the element containing the value. See Appendix C in TIB_instream_n.n_usersguide.pdf
Seg	The segment tag for the segment containing the value.
Elem	The element position within the segment.
Qual	If the segment occurs multiple times at the same location, the element position of the qualifier (01=first element in the segment) and the value of the qualifier.

Example: 835-837P Matching

Matching files in Transaction Insight’s DemoData directory

5010_835_Match2.edi
5010_837P_Match2.edi

Criteria for matching 837P to 835

5010 837P Subscriber Last Name	⇒ 5010 835 Patient/Subscriber Last Name
25010 837P Subscriber Primary Identifier	⇒ 5010 835Patient/Subscriber ID
5010 837P Patient Control Number	⇒ 5010 835 Patient Account Number

How the data matches

837 - 3 Subscribers, 3 CLMs

NM1*IL*1***SUB1***BARBARA*T**PH.D*MI*SubscriberID ①
CLM***CLM07***100.00***11:B:1*N*A*N*I~

NM1*IL*1***SUB2***MUFFY*M**M.D.*MI*SubscriberID ②
CLM***CLM08***100.00***11:B:1*Y*B*W*Y~

NM1*IL*1***SUB3***BARBARA*T**PH.D*MI*SubscriberID ③
CLM***CLM09***100.00***11:B:1*N*C*Y*I~

835 - 3 CLPs

LX*1~
CLP***CLM07***1*100.00*100.00...

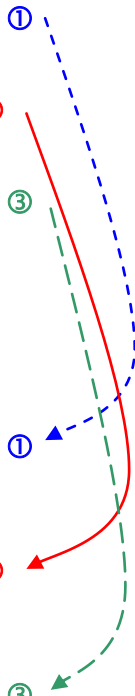
NM1*QC*1***SUB1***BARBARA*T**M.D.*MI*SubscriberID ①

LX*2~
CLP***CLM08***2*100.00*100.00...

NM1*QC*1***SUB2***MUFFY*M**PH.D*MI*SubscriberID ②

LX*3~
CLP***CLM09***3*100.00*100.00...

NM1*QC*1***SUB3***BARBARA*T**M.D.*MI*SubscriberID ③



4 Processing

Files of Interest

TIMatcher is a jar file with a bat/sh file that runs it. Files of interest include:

The Transaction Insight environment's Bin directory:

TIMatcher.config	Configuration file preset for demos. See Configuration File on page 18.
TIMatcher.bat/TIMatcher.sh	Batch file/script that runs TIMatcher.jar with settings in the config file.

The Transaction Insight environment's Java directory:

TIMatcher.jar	Java jar file for TIMatcher.
---------------	------------------------------

Command Line

```
java -jar TIMatcher.jar -r "DTLfile" -db jdbc:type//connectionstring -window nn -vn  
-log file -loglevel -purge -config file -splitmatchstatement -encryptconfig config
```

Command option	Explanation
java -jar TIMatcher.jar	Java process that performs the match TIMatcher with no options displays basic usage information
-r "DTLfile"	Path and filename of Instream detail results file. Cannot be used with -purge. Example: -r "C:\files\My835.dtl" Config file equivalent: none

Command option	Explanation																				
-db <i>connectstring</i>	<p>jdbc connection information to the Transaction Insight database. (TIMatcher does not work with the TIBCO Foresight® Archive and Retrieval System database.)</p> <p>For Oracle</p> <p>jdbc:oracle:thin:username/password@dbserver:port:instance</p> <p>For SqlServer</p> <p>jdbc:sqlserver://dbserver:port;database=dbname; user=myuser;password=mypass;</p> <p>Config file equivalent: db=</p>																				
-log <i>file</i>	<p>Path and filename to log file. Default is filename and path from -r option, with .matcher.log appended to filename.</p> <p>Config file equivalent: none</p>																				
-loglevel	See -vn .																				
-purge	<p>Purges potential matching data older than -window. Cannot be used with -r.</p> <p>If -window 30 is specified, purge will remove potential matching data that is older than 30 days. The user will still be able to see existing Related Documents at the bottom of the Document Summary page as usual, but newly imported documents will only be able to match other documents that were imported within 30 days.</p> <p>The potential matching data takes up considerable database space and you should consider purging every night. Purged tables include:</p> <table><tr><td>MatchData270</td><td>MatchData271</td><td>MatchData276</td><td>MatchData277</td></tr><tr><td>MatchData277CA</td><td>MatchData278RP</td><td>MatchData278RQ</td><td>MatchData810</td></tr><tr><td>MatchData820</td><td>MatchData834</td><td>MatchData835</td><td>MatchData837D</td></tr><tr><td>MatchData837I</td><td>MatchData837P</td><td>MatchData850</td><td>MatchData855</td></tr><tr><td>MatchData856</td><td>MatchData860</td><td>MatchData997</td><td>MatchData999</td></tr></table> <p>To verify that it worked, check that no data with a submissiondate older than the purge window exists in these tables. For example, if you regularly match 837P data and purge data older than 45 days:</p> <p>For SQL Server</p> <pre>select count(*) from matchdata837p where submissiondate < getdate()-45</pre> <p>For ORACLE</p> <pre>select count(*) from matchdata837p where submissiondate < SYSDATE-45</pre> <p>This parameter does not remove regular Transaction Insight data - only the potential matching data. It is not the same as the TIPurge.jar utility that is available separately from TIBCO Foresight.</p> <p>Config file equivalent: none</p>	MatchData270	MatchData271	MatchData276	MatchData277	MatchData277CA	MatchData278RP	MatchData278RQ	MatchData810	MatchData820	MatchData834	MatchData835	MatchData837D	MatchData837I	MatchData837P	MatchData850	MatchData855	MatchData856	MatchData860	MatchData997	MatchData999
MatchData270	MatchData271	MatchData276	MatchData277																		
MatchData277CA	MatchData278RP	MatchData278RQ	MatchData810																		
MatchData820	MatchData834	MatchData835	MatchData837D																		
MatchData837I	MatchData837P	MatchData850	MatchData855																		
MatchData856	MatchData860	MatchData997	MatchData999																		

Command option	Explanation
-splitmatchstatement	<p>Important: Do not use this option unless you are directed to do so by TIBCO Foresight Technical Support.</p> <p>Directs TIMatcher to split the database matching statement into two parts: a lookup and an insert. This option overrides the default behavior which uses a single "insert ... select from" statement.</p> <p>Note: Using this option will degrade performance.</p> <p>Config file equivalent: splitmatchstatement</p>
-config <i>file</i>	<p>Path and filename of configuration file. For example C:\Foresight\TransactionInsight\5.2.0\Environments\TIDemo\bin\TIMatcher.config</p>
-window <i>nn</i>	<p>How far back to look for matching data. Default is 30 days.</p> <p>This setting is also used by the -purge parameter.</p> <p>Config file equivalent: window=</p>
-v <i>nn</i>	<p>A digit showing the verbosity of the log:</p> <p>1 = Errors only</p> <p>2 = Warnings and Errors (default)</p> <p>3 = Info, Warnings and Errors</p> <p>4 = Verbose, Info, Warnings, and Errors</p> <p>Config file equivalent: v=</p>
-encryptconfig <i>config</i>	<p>Encrypts database information by modifying the ini file. <i>config</i> specifies the location of your ini file.</p> <p>Please see Database Information Security on page 22.</p>

Command line options take precedence over those in the config file.

Example 1 - try to match My835.dtl:

```
java -jar C:\Foresight\TransactionInsight\5.2\Environments\TIDemo\java\
TIMatcher.jar -r "C:\mydata\My835.dtl" -config C:\Foresight\TransactionInsight\
5.2\Environments\TIDemo\bin\TIMatcher.config -window 30 -v3
```

Example 2 - purge potential matching data older than 60 days:

```
java -jar C:\Foresight\TransactionInsight\5.2\Environments\TIDemo\java\TIMatcher.jar
-config C:\Foresight\TransactionInsight\5.2\Environments\TIDemo\bin\TIMatcher.config
-window 60 -v3 -purge
```

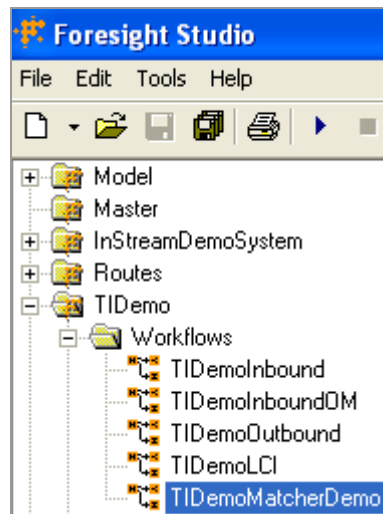
Automator Workflow

The easiest way to run the TIMatcher program is by using the new TIMatcher component under the Transaction Insight tab in a Foresight® Studio workflow.

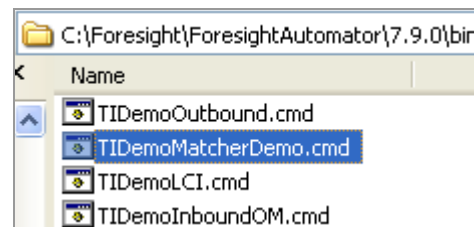
Transaction Insight installs a demo matcher workflow called *environmentname*MatcherDemo. For an environment called TIDemo, the workflow would be TIDemoMatcherDemo.

You can execute the workflow from within Foresight Studio or from the command line:

Foresight Studio



Automator Command Line



Configuration File

Some configuration file settings are optional; if they are not present in the configuration file, the default behavior for the setting is used.

Note: Command line options take precedence over settings in the configuration file.

Config file contents	Explanation
batchsize	(Optional) This option is used by the TIMatcher purge functionality and indicates how many rows to delete per transaction. The default is 0, which deletes all rows in one transaction. There is no upper limit to the number of rows. Example: batchsize=10
db=connectstring	jdbc connection information to the Transaction Insight database See -db connectstring on page 16

Config file contents	Explanation
loglevel	<p>A digit showing the verbosity of the log:</p> <p>1 = Errors only</p> <p>2 = Warnings and Errors (default)</p> <p>3 = Info, Warnings and Errors</p> <p>4 = Verbose, Info, Warnings, and Errors</p> <p>Example: loglevel=4</p>
maxconnectattempts	<p>(Optional) Number of times TIMatcher will attempt to connect to a database before timing out. Minimum value is 1, with no upper limit. The default is 3.</p> <p>Example: maxconnectattempts=5</p>
splitmatchstatement	<p>Important: Do not use this option unless you are directed to do so by TIBCO Foresight Support.</p> <p>(Optional) Directs TIMatcher to split the database matching statement into 2 parts: a lookup and an insert. This option overrides the default behavior which uses a single "insert ... select from" statement.</p> <p>True = Use one select matching candidates and one insert statement per result</p> <p>False = Use a single "insert ... select from" statement</p> <p>Example: splitmatchstatement=true</p> <p>Note: Using this option will degrade performance.</p>
window=nn	<p>Number of days to search for matching documents; also used by the -purge parameter.</p> <p>See -window nn on page 17</p>

Log Files

Location Specified with the -log command line parameter.

Filename *dtlfilename.timatcher.log*

Example: MY835.dtl.timatcher.log

Verbosity Specified with the -v command line parameter.

Interpreting the log file (many items below are only in debug logging)

Log file contents	Explanation
[INFO 2010-05-19 15:32:55]	Date and time of writing this line
TIMatcher v4.0.0.0 [Build 220 - 2010-05-18 16:58:59]	TIMatcher version
_transactionType: 837P	Transaction
_version: 005010X222	GS08 value
_short_version: 5010	Version
<i>Processing starts now ...</i>	
levelName: ISA	Starting to process the ISA
saving SVALU 'ISA/ISA1(8,0)'	Saving the ISA08 as potential matching data in the database This location is marked with the structure ID (SVALU) of ISA1 (8,0) means the 8 th element in the ISA. The 0 means there is no subelement
saving SVALU 'ISA/ISA1(6,0)'	Saving the ISA06, which is marked with the SVALU ISA1
levelName: GS	Starting to process the GS
saving SVALU 'ISA/GS/GSSG(3,0)'	Saving the GS03, which is marked with the SVALU GSSG
levelName: 1000A	Starting the 100A loop
entering document level 'ISA/GS/ST/2000A/2000B/2000C/2300'	Starting the document level
entering insert level 'ISA/GS/ST/2000A/2000B/2000C/2300'	Starting the level where TIMatcher saves data for matching
saving data for matching	Saving potential matching data from 2300 loop
a match was made	A match was found for the document
exiting document level	End of this DTL file's matching


```

[INFO 2010-05-19 15:32:53,730] TIMatcher v4.0.0.0 [Build 220 - 2010-05-18 16:58:59]
[INFO 2010-05-19 15:32:55,355] _transactionType: 837P
[INFO 2010-05-19 15:32:55,355] _version: 005010X222
[INFO 2010-05-19 15:32:55,355] _short_version: 5010
[INFO 2010-05-19 15:32:55,355] _docType: 0
[INFO 2010-05-19 15:32:55,589] levelName: ISA
[INFO 2010-05-19 15:32:55,605] saving SVALU 'ISA/ISA1(8,0)'
[INFO 2010-05-19 15:32:55,605] saving SVALU 'ISA/ISA1(6,0) '
[INFO 2010-05-19 15:32:55,605] levelName: GS
[INFO 2010-05-19 15:32:55,605] saving SVALU 'ISA/GS/GSSG(3,0) '
[INFO 2010-05-19 15:32:55,605] saving SVALU 'ISA/GS/GSSG(2,0) '
[INFO 2010-05-19 15:32:55,605] saving SVALU 'ISA/GS/GSSG(1,0) '
[INFO 2010-05-19 15:32:55,605] saving SVALU 'ISA/GS/GSSG(6,0) '
[INFO 2010-05-19 15:32:55,605] saving SVALU 'ISA/GS/GSSG(8,0) '
[INFO 2010-05-19 15:32:55,605] levelName: ST
[INFO 2010-05-19 15:32:55,605] levelName: 1000A
[INFO 2010-05-19 15:32:55,605] levelName: 1000B
[INFO 2010-05-19 15:32:55,605] levelName: 2000A
[INFO 2010-05-19 15:32:55,605] levelName: 2010AA
[INFO 2010-05-19 15:32:55,605] levelName: 2010AB
[INFO 2010-05-19 15:32:55,605] levelName: 2000B
[INFO 2010-05-19 15:32:55,605] levelName: 2010BA
[INFO 2010-05-19 15:32:55,605] saving SVALU
'ISA/GS/ST/2000A/2000B/2010BA/0003(3,0) '
[INFO 2010-05-19 15:32:55,605] saving SVALU
'ISA/GS/ST/2000A/2000B/2010BA/0003(9,0) '
[INFO 2010-05-19 15:32:55,605] levelName: 2010BB
[INFO 2010-05-19 15:32:55,605] levelName: 2000C
[INFO 2010-05-19 15:32:55,605] levelName: 2010CA
[INFO 2010-05-19 15:32:55,605] levelName: 2300
[INFO 2010-05-19 15:32:55,605] entering document level
'ISA/GS/ST/2000A/2000B/2000C/2300 '
[INFO 2010-05-19 15:32:55,605] entering insert level
'ISA/GS/ST/2000A/2000B/2000C/2300 '
[INFO 2010-05-19 15:32:55,605] saving SVALU
'ISA/GS/ST/2000A/2000B/2000C/2300/P009(1,0) '
[INFO 2010-05-19 15:32:55,605] levelName: 2400
[INFO 2010-05-19 15:32:55,605] levelName: 2400
[INFO 2010-05-19 15:32:55,605] levelName: 2400
[INFO 2010-05-19 15:32:55,605] saving data for matching
[INFO 2010-05-19 15:32:55,620] attempting match
[INFO 2010-05-19 15:32:55,620] a match was made
[INFO 2010-05-19 15:32:55,620] exiting document level
'ISA/GS/ST/2000A/2000B/2000C/2300 '

```

Database Information Security

To enhance database security, TIMatcher no longer writes database information to log files.

For additional security, you may choose to encrypt database information. To do this, run TIMatcher with the - **encryptconfig** *config* option and specify the location of your ini file.

For example:

```
TIMatcher -encryptconfig C:\example\TIMatcher.config
```

This causes TIMatcher to access the specified ini file, change the line beginning with "db=" to "db_enc=", and encrypt the remainder of the line.

IMPORTANT: After this change connection information is machine readable only. Ensure your database connection information is accurate before encrypting it.

Interpreting Related Documents Information

The bottom of the Document Summary page will show information about documents that match the one you are currently viewing.

Related Documents					
Connects	Submitter Identifier	Location	Transaction Set	Version	Submission Date
From	837P+P1_S6_PAT8_C8-W4S12-ARS-TM7	Claim	837P	5010	5/9/2017 8:19:30 AM
From	837I+P1_S2_PAT3_C8-W4S12-ARS-TM7	Claim	837I	5010	5/9/2017 8:19:21 AM
Show <input type="text" value="10"/> records per page					

Column	Explanation
Connects	From This is an originating document such as a 270 or 837. To This is a response document such as a 999, 271, or 835.
Submitter Identifier	This value varies by transaction set. The example below shows a Related Document that is an 837P, so the Submitter Identifier value is from its CLM01. Clicking it will take you to the 837P with a CLM01 of 26463774. For a list of Submitter Identifiers for each transaction type, see ApplicationDocTables.pdf .
Location	Business wording for the type of document.
Transaction Set	Related document's transaction set.
Version	Related document's version: 5010 or 4010A.
Submission Date	Validation date and time from the related document's DTL file.

5 Appendix A: Return Codes

Return Code	Meaning
0	Successfully completed.
1	Invalid argument.
2	File not found.
3	File already processed.
4	Invalid file (doesn't look like an Instream results file).
5	File not imported into the Transaction Insight database yet.
6	FSUID not found.
7	Database error.
8	Configuration error.
9	Unable to open the log file.
99	Unknown.

Troubleshooting information	Notes
log file	Specified with -log command-line parameter.