How to Prepare and Submit a FAST Job

A Guide to the Peachtree Data FAST Automated Job Processing System

11/29/2021

If you have any questions or comments about FAST or this document, please call your Peachtree Data Account Representative and let them know what you think.

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How to Prepare and Submit a FAST Job

The bulk of this document is mostly reference details, so don't let the size of it fool you: FAST jobs are really easy to prepare and submit, and you'll be a pro in no time.

FAST can do a lot, so the documentation has to contain all the details of what it can do, but most of what you'll need to know for the majority of jobs is extremely basic.

FAST in a Nutshell

Beside the data file you send us for processing, you will also need to send us files that specify what you want us to do and how you want us to do it. These are simple text files containing phrases our FAST system uses as its processing instructions.

The first of these files is **FASTservices.txt**, which tells us which services you want processed on your data file.

The second is **FASTinput.txt**, which describes the format of your data file to our FAST system.

The third is **FASToutput.txt**, which tells us how you want your output file or files to be formatted and populated.

You prepare the job by creating a ZIP file that contains your data input file plus these FAST specification files. The ZIP you send to us will have the following file naming convention: *YourReference*.fast.zip. Where *YourReference* can contain any Alpha/Numeric value, including spaces, from 1 to 30 characters. This will become the Purchase Order number that is referenced during our billing process.

You submit the job by sending it via your SecureFTP account to our processing server.

Once your job is finished processing you will receive notification via an email containing a link to download the job.

If we have any problems with any part of your job then we will contact you via email.

That's FAST in a nutshell. The details of the process are very straightforward, too, so please take a few moments to read through the rest of this brief document and familiarize yourself with FAST job processing.

If you have any questions or comments, please feel free to call your Account Representative at any time. We are always here to serve you.

FASTservices.txt

The FASTServices.txt specification file contains the instructions for which services, along with optional parameters, FAST is to run using the data file provided in the job file. A full listing and complete FASTServices template is included in the FAST Starter Kit which can be downloaded from https://www.peachtreeedata.com.

Here is an example that specifies processing CASS and NCOA:

```
* ADDRESS STANDARDIZATION
* ---------------------------------------------------------------------------
* Specify output casing, if left blank FAST will use Auto-case to
* match the output to the input casing
Case (A/UL/U/L)............................................................ =
  * A  = Auto-casing (Default)
  * UL = Upper and Lower
  * U  = Upper
  * L  = Lower


* US ADDRESS STANDARDIZATION SERVICES
* ---------------------------------------------------------------------------
* CASS will be automatically run if you specify Y for any other services
A-CASS: Coding Accuracy Support System Encoding (Y/N/T)..................... = Y
       * To set output casing, use the CASE option listed above


A-NCOA: National Change of Address (NCOAlink) (Y/N/T)....................... = Y
  List ID (the PAF ID for NCOAlink and/or DSF2)............................ = P12345

  High Match Rate Description (N/A/R)...................................... =
  * N = Normal Mail File (Default; if you're not sure, use this setting)
  * A = ANKLink Processed File (Full Service Provider only)
  * R = Return Mail File

  Match Logic (S/I/B/IB/R)................................................ =
  * S  = Business, Individual, and Family (Default)
  * I  = Individual Only
  * B  = Business Only
  * IB = Individual with Business
  * R  = Individual and Family

  Accepted COA Months (6 - 48) (Default is 48) ............................ =

  Processing First Class Mail (Default) (Y/N)............................. =
  Processing Periodicals Mail (Y/N)....................................... =
  Processing Standard Mail (Y/N)........................................... =
  Processing Package Services Mail (Y/N)................................... =
```

(Those lines that begin with asterisks are comments to help guide you and are not processed by FAST.)

You don't have to use our template to specify the services you want. You can instead specify only what you want and leave the rest out. For example, this is equivalent to the complete template shown above excluding anything that is not used by FAST:

```
A-CASS = Y
A-NCOA = Y
List ID = P12345
```

All our FAST system really needs are the phrases it's looking for separated from your specifications by Equals symbols.

What makes a phrase?

FAST reads from the beginning of a line up to the first Colon, Open Parenthesis, or Equals symbol; trims any leading and trailing spaces; and looks for that string of characters in its list of phrases. If there's a match, FAST uses the value on the right side of the Equals symbol as your specification.

Custom FASTservices.txt Templates

You can even make your own custom template for use inside your company, containing just the services you typically use, and with only those comments and phrase instructions you might need:

```
* FASTservices template for XYZ Company of America

A-CASS=Y
A-NCOA =
A-DSF =
List ID (the PAF ID for NCOAlink and/or DSF2 = P12345
Match Logic (S/I/B/IB/R) John: either B (business) or IB (individual + business) =
Processing First Class Mail (Default) (Y/N)............................... =
Processing Periodicals Mail (Y/N)......................................... =
Processing Standard Mail (Y/N)............................................ =
Processing Package Services Mail (Y/N)..................................... =
```

Whichever way you produce this file, it must be named either `FASTservices.txt` or named in the format `FASTservices.YourOwnTextGoesHere.txt` to be recognized by the FAST system.

If you frequently order two or more specific sets of services from Peachtree Data, you might consider making a FASTservices template for each set, for example:

- FASTservices.CASSonly.txt (contains just A-CASS=Y)
- FASTservices.NCOA-DSF-P12345.txt (contains A-NCOA=Y and List ID=P12345)
- FASTservices.NCOA-DSF-P23456.txt (contains A-NCOA=Y and List ID=P23456)

That way you can simply copy the pre-made template you need into the .Zip file you send us.

Services Notes

It's always a good idea to familiarize yourself with Peachtree Data's FASTservices.txt template because it can teach you a lot about which services and service processing options are available and which of those are required. Here's some guidance to help you along.

Specifications

Each line that isn't blank or doesn't begin with an asterisk is a "specification" that tells FAST how you want it to process some detail of your job.

All specifications are case-insensitive, so you don't have to worry about uppercasing or lowercasing anything. These two specifications are identical:

```
TruncLastName(9) = Sub(Trim(LastName), 1, 9)
trunclastname(9) = sub(trim(lastname), 1, 9)
```

Also, each specification must appear on a single line, which means that this will work:

```
Record Filter = NOT(Left(Standard.County.Name, 1) = "L")
```

but this will not work:

```
Record Filter =
NOT(
   Left(Standard.County.Name, 1) = "L")
```

Yes, No, Test

You'll notice that some services give you the option for Yes and No (Y/N) while others offer Yes, No, and Test (Y/N/T) as processing options.

If you leave a specification empty, that is the same as specifying N.

If you specify Y, this instructs FAST to include that service when processing your job.

If you specify T, this instructs FAST to include that service when processing your job at no charge – *but you will not receive the results of those tested services in the output file we return to you.*

You will, however, receive two additional benefits:

- Your statistics reports will show what *would* have happened if you had actually purchased the tested services, and
- You will receive back an additional output file containing the additional columns (empty) that would have contained the results of those tested services.

Defaults

In our FASTservices.txt template, whenever you see a specification instruction that contains the word "Default" inside parentheses, FAST will automatically choose that value if FAST requires the specification and you didn't specify one.

For example, if you specify A-CASS or A-CASS-CANADA but don't specify how it should handle Case:

```
* ADDRESS STANDARDIZATION
* ---------------------------------------------------------------------------
* Specify output casing, if left blank FAST will use Auto-case to
* match the output to the input casing
Case (A/UL/U/L)............................................................ =
    * A  = Auto-casing (Default)
    * UL = Upper and Lower
    * U  = Upper
    * L  = Lower


* US ADDRESS STANDARDIZATION SERVICES
* ---------------------------------------------------------------------------
* CASS will be automatically run if you specify Y for any other services
A-CASS: Coding Accuracy Support System Encoding (Y/N/T)...................... = Y
```

then FAST will consider this the same as if you had explicitly specified A for Case:

```
* ADDRESS STANDARDIZATION
* ---------------------------------------------------------------------------
* Specify output casing, if left blank FAST will use Auto-case to
* match the output to the input casing
Case (A/UL/U/L)............................................................ = A
    * A  = Auto-casing (Default)
    * UL = Upper and Lower
    * U  = Upper
    * L  = Lower


* US ADDRESS STANDARDIZATION SERVICES
* ---------------------------------------------------------------------------
* CASS will be automatically run if you specify Y for any other services
A-CASS: Coding Accuracy Support System Encoding (Y/N/T)...................... = Y
```

If A-CASS were not specified then Case would have been completely ignored.

Automatic Corrections

To make things as easy as possible for you, FAST automatically chooses for you some of the dependent services which you may have overlooked, but there are some which FAST cannot choose for you.

For example, since A-CASS is required for all services except A-REVERSEPHONE and A-APT-APPEND, FAST will automatically set A-CASS to Y if you forgot to do so.

This prevents jobs from being rejected for minor obvious flaws in specifications. So if your job is rejected because a dependency wasn't specified then that dependency was one that FAST could not automatically correct for you.

FASTservices.txt is Required

FAST cannot process your job unless it contains a FASTservices.txt document, or one that fits the file naming convention mentioned earlier.

Where to Find the Template

Your copy of Peachtree Data's FASTservices.txt template is in the `FAST Starter Kit.zip` that contained this document you're now reading.

FASTinput.txt

Peachtree Data provides you with a standard FASTinput.txt template that contains all possible input specifications plus comments to guide you. The complete template can be found in the FAST Starter Kit downloadable from https://www.peachtreedata.com.

PLEASE NOTE: For fixed width files, FAST determines and appends the end of line character to what is provided in this document so do not include it in the column list. Here is an example that specifies a fixed-width input file containing the columns fname, lname, addr1, addr2, city, state, zip5, filler, and id:

```
* ------------------------------  FASTinput  --------------------------------


INPUT FILE TYPE
* ---------------------------------------------------------------------------
* This is the source file you send to Peachtree Data for processing.

Input Data File Type: (Fixed, DBase, Delimited)............................ = Fixed
    * Fixed     = Fixed-width ASCII
    * Dbase     = Dbase3
    * Delimited = ASCII file delimited by a specific character

INPUT COLUMN DEFINITIONS
* ---------------------------------------------------------------------------
* This is the list of column names and lengths in your datafile, listed in
* left-to-right order.  Please list all columns in the data file.
*
* Each column name must be unique.
*
* If Input Data File Type is Dbase, or if it is Delimited with
* First Row Contains Column Names = Y, then this section will be ignored.

* Example input column definition:

* fname(15)

* where "fname" is your input column name, and 15 is the maximum length of
* this field.  All columns are treated as text datatypes.

fname(15)
lname(20)
addr1(30)
addr2(30)
city(15)
state(2)
zip5(5)
filler(8)
id(20)
```

```
INPUT COLUMN MAPPINGS
* ---------------------------------------------------------------------------
* In the format: Peachtree Data's Column Name = Your Column Name
* Example: City = cityname
*
* If you don't have a column to map to one of Peachtree Data's columns then
* just leave that entry blank
*
* To combine multiple columns and plain text into a single column, use
* an Ampersand (&) to connect items with a single space between them,
* or a Plus Symbol (+) to connect items with nothing between them.
* Examples:
* FullName = fname & lname                        --> John Doe
* FullName = fname & mname & lname + "," & suffix --> John Fitzgerald Doe, Jr
*
* If FullName or Firm is used then NameOrFirm should be blank
* If City, State and ZIPCode are used then LastLine should be blank

Name Format Used By FullName and/or NameOrFirm: (FML, LCFM, LFM)............. =
    * FML  = Example: "John Fitzgerald Doe" or "John Doe" (Default)
    * LCFM = Example: "Doe, John Fitzgerald" or "Doe, John"
    * LFM  = Example: "Doe John Fitzgerald" or "Doe John"

* Use only one of these mapping blocks and leave the other one empty

* Explicitly-named fields mapping block:
FullName   = fname & lname
Firm       =
NameOrFirm =
Address1   = addr1
Address2   = addr2
City       = city
State      = state
ZIPCode    = zip5
LastLine   =
Phone      =
Email      =
```

Just like FASTservices.txt, FASTinput.txt doesn't have to use Peachtree Data's template. You can instead specify only what you want and leave the rest out. For example, this is equivalent to the complete template shown above:

```
Input Data File Type = Fixed

INPUT COLUMN DEFINITIONS
fname(15)
lname(20)
addr1(30)
addr2(30)
city(15)
state(2)
zip5(5)
filler(8)
id(20)

INPUT COLUMN MAPPINGS
FullName    = fname & lname
Address1    = addr1
Address2    = addr2
City        = city
State       = state
ZIPCode     = zip5
```

Custom FASTinput.txt Templates

Just like with FASTservices.txt, you can create one or more of your own custom FASTinput.txt templates for use inside your company. It will be recognized by the FAST system as long as it is named either `FASTinput.txt` or named in the format `FASTinput.YourOwnTextGoesHere.txt`.

Let's say you typically have two types of input data files you process with us: Dbase files containing a specific set of columns that never change, and comma-delimited files that contain five standard columns plus any number of additional columns. An efficient strategy might be to create two custom templates…

FASTinput.dbase.txt:

```
Input Data File Type = Dbase
INPUT COLUMN MAPPINGS
FullName    = fn
Address1    = a1
Address2    = a2
City        = ct
State       = st
ZIPCode     = zc
```

FASTinput.comma.txt:

```
Input Data File Type = Delimited
Input Delimiter = Comma
First Row Contains Column Names = N

INPUT COLUMN DEFINITIONS
CompleteName(30)
Address(40)
City(15)
State(2)
PostalCode(10)
* Susan: add any additional non-standard columns immediately below this comment line

INPUT COLUMN MAPPINGS
FullName   = CompleteName
Address1   = Address
Address2   =
City       = City
State      = State
ZIPCode    = PostalCode
Phone      =
```

…and then for jobs using Dbase input files, drag a copy of FASTinput.dbase.txt into your job's .Zip file. For jobs using comma-delimited input files, modify a copy of FASTinput.comma.txt to include the additional columns and then drag it into your job's .Zip file.

How to Handle "Floating Lines"

So far the examples we've shown for FASTinput.txt have used input data files containing explicitly-defined columns for each discrete value, like this:

```
Record 1:
FullName  = Richard West
Firm      = Peachtree Data
Address1  = 2905 Premiere Pkwy
Address2  = Suite 200
City      = Duluth
State     = GA
ZipCode   = 30097

Record 2:
FullName  = Bobby Lemanczek
Firm      =
Address1  = 1221 Peachtree St
Address2  = Apt 1505
City      = Atlanta
State     = GA
ZipCode   = 30303
```

But sometimes your input data file may contain complete address block lines that are not explicitly positioned, like this:

```
Record 1:
Field1 = Richard West
Field2 = Peachtree Data
Field3 = 2905 Premiere Pkwy
Field4 = Suite 200
Field5 = Duluth GA 30097

Record 2:
Field1 = Bobby Lemanczek
Field2 = 1221 Peachtree St Apt 1505
Field3 = Atlanta GA 30303
Field4 =
Field5 =
```

Such data is said to “float”; the term we use at Peachtree Data is *multi-line input.*

FASTinput.txt handles multi-line input through its Auto-Mapping Block.

Given the example data shown above, this could be one way to specify it in a FASTinput.txt:

```
Input Data File Type = Fixed

INPUT COLUMN DEFINITIONS
Field1(40)
Field2(40)
Field3(40)
Field4(40)
Field5(40)
id(20)

INPUT COLUMN MAPPINGS
Line1      = Field1
Line2      = Field2
Line3      = Field3
Line4      = Field4
Line5      = Field5
Line6      =
Line7      =
Line8      =
Line9      =
Line10     =
Line11     =
Line12     =
```

Line1 through Line12 is available for mapping to your floating line columns. In the example above, we could have omitted Line6 through Line12, but we included them to illustrate that they are available to you.

You can use either the Explicitly-Named Fields Mapping Block or the Auto-Mapping Block, but not both.

Floating Lines are not supported for A-REVERSEPHONE and A-EMAIL-VERIFY.

Input Notes

It's always a good idea to familiarize yourself with Peachtree Data's FASTinput.txt template because it can teach you a lot about which data input processing options are available and which of those are required. Here's some guidance to help you along.

Section Headings

Unlike FASTservices.txt, FASTinput.txt contains section headings, some of which are needed by FAST:

Input File Type	When FAST reads your FASTinput.txt, it assumes it is reading the Input File Type section until it sees one of the other two section headings. The Input File Type heading is used only when you place your Input File Type section after one of the other two sections.
Input Column Definitions	**This section is ignored if your input data file is either a Dbase file or a delimited file with the first row containing the column names.**
Input Column Mappings	Required.

Section Order

FASTinput.txt sections may appear in any order you prefer.

Input Delimiter

Applies only when the input data file type is Delimited.

First Row Contains Column Names

Applies only when the input data file type is Delimited.

When First Row Contains Column Names is set to Y, FAST ignores the entire Input Column Specifications if you included one. In this case, FAST discovers column names and sizes by inspecting the input data file itself.

Name Format

The three full name format options shown in our FASTinput.txt template are the only three recognized by FAST.

The default is FML (First Middle Last).

FASTinput.txt is Required

FAST cannot process your job unless it contains a FASTinput.txt document, or one that fits the <u>file naming convention mentioned earlier</u>.

Where to Find the Template

Your copy of Peachtree Data's FASTinput.txt template is in the `FAST Starter Kit.zip` that contained this document you're now reading.

FASToutput.txt

FASToutput.txt isn't very complicated, but there's more to it than either FASTservices.txt or FASTinput.txt, so let's discuss it a bit.

One piece of good news is that FASToutput.txt is entirely optional, so you may not even need to create one.

If you just want us to put all your processed records into a single output file that is the same file type (e.g., .dbf, .csv) as your original data input file and that has the default data columns for the services we processed plus a copy of all your original data, don't include a FASToutput.txt in the Zip file you send us.

In this case, this single output file will be named using the characters before the first period in your job's Zip file name.

But if you want a different data file format (Fixed, Delimited, or Dbase) than your original data input file, or you want multiple output files containing specific records based on filtering criteria, or different sets of columns for each file, or anything outside the default described above in bold, then you'll need to include a FASToutput.txt file in the Zip file you send us.

Peachtree Data can provide you with a standard FASToutput.txt template that contains all possible output specifications plus comments to guide you. Here is an example that specifies a single output file in Dbase format named cust.dbf that contains all records, and the output columns in this file will be id, fullname, address1, address2, city, state, zip, and prospctgrp:

```
* ------------------------------  FASToutput  ------------------------------


OUTPUT REPORTS
Output Report Format: (PDF, CSV, JSON) ..................................... = PDF
* Comma separated list of report formats (PDF is the default if section omitted)

OUTPUT OPTIONS
* ---------------------------------------------------------------------------
* These apply to all output files you specify in the OUTPUT FILE section(s).

Output Data File Type: (Fixed, DBase, Delimited)............................ = Dbase
    * Fixed     = Fixed-width ASCII (.txt)
    * Dbase     = DBase3 (.dbf)
    * Delimited = ASCII file delimited by a specific character
* Defaults to Input Data File Type if not specified.
* This will be used for all output files.

Output Delimiter: (Comma, Tab, Pipe)....................................... =
* If Delimited is specified directly above
    * Comma = Commas mark the boundaries of each column (.csv)
    * Tab   = Tab characters mark the boundaries of each column (.txt)
    * Pipe  = Pipe characters mark the boundaries of each column (.txt)
* Defaults to Input Delimiter if not specified.

Output Each Record: (Once/All)............................................. =
    * Once = (Default) Evaluate records against each Record Filter in the
    *        order listed in the OUTPUT FILES section, but output to only
    *        the first output file whose Record Filter evaluates to True.
    * All  = Evaluate records against each Record Filter in the order
    *        listed in the OUTPUT FILES section, and output to all
    *        Output Files whose Record Filters evaluate to True.

Output Text Qualifier: (None/Quote)........................................ =
    * None  = (Default) Do not surround output values with double-quotes
    *         unless the value contains a delimiter character.
    * Quote = Surround all output values with double-quotes regardless of
    *         whether or not they contain a delimiter character.
```

```
UNFILTERED RECORDS FILE

Unfiltered Record Handling: (Default/Ignore)............................... =
    * Default = (Default) If a record does not match any of the
    *           Record Filters below, then output it to the
    *           Unfiltered Records File.
    * Ignore  = If a record does not match any of the Record Filters
    *           below, then ignore it.

Unfiltered Records File Name:............................................... =
* You may use any file name extension up to 10 characters long.
* If you do not specify a file name extension then one will be created based
* on the Output Data File Type and Output Delimiter:
    * Fixed            = .txt
    * Dbase            = .dbf
    * Delimited, comma = .csv
    * Delimited, pipe  = .txt
    * Delimited, tab   = .txt
*
* Records that do not match any of the Record Filters below
* will be put into this file.
*
* Defaults to a file named UnfilteredRecords with the same
* file name extension used for the Output Data File Type.

* ---------------------------------------------------------------------------
* Define the columns in the Unfiltered Records File below this line.
* (default: FAST.#DefaultOutputFields# followed by original.#AllInputFields#)

* Examples:

* CompanyName(30) = original.firm
* FactorCode(2) = iif(sub(trim(original.firm), 1, 3) = "Fed", "FE", "CL")

* (refer to "How to Prepare and Submit a FAST Job" for full details)
* ---------------------------------------------------------------------------
```

```
OUTPUT FILE
* ---------------------------------------------------------------------------
* This is a processed file that Peachtree Data sends back to you.
*
* If you want us to return multiple output files to you, just copy and paste
* the entire OUTPUT FILE section multiple times and modify the specifications
* as needed.

Output File Name:............................................................ = cust
* You may use any file name extension up to 10 characters long.
* If you do not specify a file name extension then one will be created based
* on the Output Data File Type and Output Delimiter:
    * Fixed            = .txt
    * Dbase            = .dbf
    * Delimited, comma = .csv
    * Delimited, pipe  = .txt
    * Delimited, tab   = .txt

Record Filter:............................................................... =
* If you want only certain records in this output file, specify the
* expression here.

* Examples:
* original.CreditScore >= 700   --> CreditScore greater than or equal to 700
* Left(standard.Zip, 3) = "303" --> Zip begins with 303

* ---------------------------------------------------------------------------
* Define the columns in this Output File below this line.
* (default: FAST.#DefaultOutputFields# followed by original.#AllInputFields#)

id(7)            = pix.rowid
fullname(30)     = original.fullname
address1(40)     = standard.address.primary
address2(40)     = standard.address.secondary
city(20)         = standard.city
state(2)         = standard.state
zip(10)          = standard.zip10
prospctgrp(3)    = iif(sub(coa.zip, 1, 3) = "303", "ATL", "OTH")

* Examples:

* CompanyName(30) = original.firm
* FactorCode(2) = iif(sub(trim(original.firm), 1, 3) = "Fed", "FE", "CL")

* (refer to "How to Prepare and Submit a FAST Job" for full details)
* ---------------------------------------------------------------------------
```

Just like FASTservices.txt and FASTinput.txt, FASToutput.txt doesn't have to use Peachtree Data's template. You can instead specify only what you want and leave the rest out. For example, this is equivalent to the complete template shown above:

```
Output Data File Type = Dbase

OUTPUT FILE
Output File Name = cust

id(7)            = pix.rowid
fullname(30)     = original.fullname
address1(40)     = standard.address.primary
address2(40)     = standard.address.secondary
city(20)         = standard.city
state(2)         = standard.state
zip(10)          = standard.zip10
prospctgrp(3)    = iif(sub(coa.zip, 1, 3) = "303", "ATL", "OTH")
```

What Does Original.FieldName Mean?

`Original.` is the prefix that identifies the location of the field name in `Original.FieldName` as being your original data input file.

So if your data input file contains a four-character field named MarketingCode and you want to copy that field as the third field in the processed output file, your output column mapping will look something like this:

```
id(7)            = pix.rowid
fullname(30)     = original.fullname
marketingcode(4) = original.marketingcode
address1(40)     = standard.address.primary
address2(40)     = standard.address.secondary
. . .
```

Custom FASToutput.txt Templates

Just like with FASTservices.txt and FASTinput.txt, you can create one or more of your own custom FASToutput.txt templates for use inside your company.

If you require more than a single output file or have complicated output column mapping expressions you use on multiple projects then it's a good idea to create a custom template with those specifications and just copy (and edit, if necessary) the template for each new job.

This is especially useful for seasonal marketing campaigns that produce the same output files based on the same record filters.

Whichever way you produce this file, it must be named either `FASToutput.txt` or named in the format `FASToutput.YourOwnTextGoesHere.txt`.

Output Notes

It's always a good idea to familiarize yourself with Peachtree Data's FASToutput.txt template because it can teach you a lot about which data output processing options are available and which of those are required. Here's some guidance to help you along.

Section Headings

Like FASTinput.txt, FASToutput.txt contains section headings:

Output Options	**The Output Options section is optional.** An Output Options section may appear anywhere within FASToutput.txt. Your FASToutput.txt may contain only one Output Options section. If you do not include an Output Options section in your FASToutput.txt then FAST will use all default values for each specification in the Output Options section.
Output Reports	**The Output Reports section is optional** An Output Reports section may appear anywhere within FASToutput.txt. Your FASToutput.txt may contain only one Output Reports section. If you do not include an Output Reports section in your FASToutput.txt then FAST will output all reports in PDF format.
Unfiltered Records File	**The Unfiltered Records File section is optional.** Your FASToutput.txt may contain only one Unfiltered Records File section. If you do not include an Unfiltered Records File section in your FASToutput.txt then FAST will use all default values for each specification in the Unfiltered Records File section.
Output File	**The Output File sections are optional.** Each Output File section specifies a separate output file. You may include up to 25 Output File sections. If you do not include an Output File section in your FASToutput.txt then FAST will create a single Output File section that uses default values for each specification.

Section Order

FASToutput.txt sections may appear in any order you prefer.

Output Options

FAST will use the Output Data File Type and Output Delimiter for all output files generated for the job.

If you don't specify the Output Data File Type then FAST will default to using the value you specified for Input Data File Type.

Delimited Output

If you specify Delimited output, the first row of the output file will always contain the column names.

Output Each Record

As you will see later, FAST enables you to specify output into multiple files, each with its own filtering criteria that controls which records populate it.

So for example, you could have an AtlantaResidents output file specification that filters records with standard.zip = 30303, *followed by* an AtlantaPOBoxes output file specification that filters records with standard.zip = 30303 AND Not(Empty(standard.address.pobox)). This means that any record that would qualify for the AtlantaPOBoxes output file would also qualify for the AtlantaResidents output file.

You tell FAST how to handle scenarios like this through the Output Each Record specification.

For example if the FASToutput.txt that specifies the scenario above also contains the specification:

```
Output Each Record = All
```

FAST will put copies of the records that match the AtlantaPOBoxes criteria into *both* the AtlantaPOBoxes output file *and* the AtlantaResidents output file.

But if the FASToutput.txt instead contained the specification:

```
Output Each Record = Once
```

FAST would put all records with zip code 30303 into the AtlantaResidents output file, leaving the AtlantaPOBoxes output file completely empty. This is because the AtlantaResidents output file specification was *before* the AtlantaPOBoxes output file specification.

If these two specifications were reversed, such that AtlantaPOBoxes was *before* AtlantaResidents, then Output Each Record = Once would put records with *both* zip code 30303 *and* PO Box numbers into AtlantaPOBoxes only, and then put records with *just* zip code 30303 into AtlantaResidents.

Output Text Qualifier

If output is to a text-based file then by default output values are surrounded with double-quote characters only if they contain a delimiter character.

This is the equivalent of explicitly specifying:

```
Output Text Qualifier = None
```

and will produce output like this:

```
Smith,John,42,"Lock, Stock, and Barrel",Atlanta,GA,30303
```

If you want every field to be surrounded with double-quote characters whether or not they contain delimiter characters, then your FASToutput.txt must contain this specification:

```
Output Text Qualifier = Quote
```

The resulting output will look like this:

```
"Smith","John","42","Lock, Stock, and Barrel","Atlanta","GA","30303"
```

Unfiltered Records File

The Unfiltered Records File section controls how FAST handles records that do not satisfy the Record Filter specifications of any Output File sections.

Unfiltered Record Handling

If you don't want to keep the records that don't match any output file's filtering criteria, you would specify:

```
Unfiltered Record Handling = Ignore
```

If you wanted instead to store unfiltered records into an output file of its own, you would specify:

```
Unfiltered Record Handling = Default
```

Unfiltered Records File Name

This is the name of the file into which you want FAST to place your unfiltered records. You can specify just the filename root, or you can optionally add an extension of your choice up to 10 characters long.

If you don't specify a value for the related Unfiltered Records File Name specification, FAST will put these unfiltered records into a file named UnfilteredRecords with an extension that corresponds to the chosen output file format.

If you want FAST to place unfiltered records into a file with a specific name, specify just the filename like this:

```
Unfiltered Records File Name = RecordsThatDidNotMatch
```

or perhaps:

```
Unfiltered Records File Name = JunkRecords.txt
```

The name of your Unfiltered Records File cannot be the same as the name of any of your Output Files.

Output Column Mappings

Output column mappings tell FAST which columns you want in the files we send you and how you want those columns populated with processed data.

```
UNFILTERED RECORDS FILE

Unfiltered Record Handling: (Default/Ignore)............................... = Default
    * Default = (Default) If a record does not match any of the
    *           Record Filters below, then output it to the
    *           Unfiltered Records File.
    * Ignore  = If a record does not match any of the Record Filters
    *           below, then ignore it.

Unfiltered Records File Name:............................................... = Other
* You may use any file name extension up to 10 characters long.
* If you do not specify a file name extension then one will be created based
* on the Output Data File Type and Output Delimiter:
    * Fixed            = .txt
    * Dbase            = .dbf
    * Delimited, comma = .csv
    * Delimited, pipe  = .txt
    * Delimited, tab   = .txt
*
* Records that do not match any of the Record Filters below
* will be put into this file.
*
* Defaults to a file named UnfilteredRecords with the same
* file name extension used for the Output Data File Type.

* ---------------------------------------------------------------------------
* Define the columns in the Unfiltered Records File below this line.
* (default: FAST.#DefaultOutputFields# followed by original.#AllInputFields#)

id(7)           = pix.rowid
fullname(30)    = original.fullname
address1(40)    = standard.address.primary
address2(40)    = standard.address.secondary
city(20)        = standard.city
state(2)        = standard.state
zip(10)         = standard.zip10
prospctgrp(3)   = iif(sub(coa.zip, 1, 3) = "303", "ATL", "OTH")

* Examples:

* CompanyName(30) = original.firm
* FactorCode(2) = iif(sub(trim(original.firm), 1, 3) = "Fed", "FE", "CL")

* (refer to "How to Prepare and Submit a FAST Job" for full details)
* ---------------------------------------------------------------------------
```

Output Column Mappings

Output column mappings are used by both the **Unfiltered Records File** section and the **Output File** section(s), and function in exactly the same way in both sections.

Here is an example of two output column mappings:

```
city(20)          = standard.city
prospctgrp (3)    = iif(left(coa.zip, 3) = "303", "ATL", "OTH")
```

They follow the pattern:

```
<your_output_field_name>(<output_field_length>) = <FXL expression>
```

The FXL expression of an output column mapping will most likely reference one or more fields containing processed data, known as **PIX fields**.

PIX is an acronym for "Peachtree Interchange format", the reference for which is in Appendix A: PIX Field Reference. The PIX Field Reference contains the complete listing of all available processed data fields for each service.

The first output column mapping shown above instructs FAST to create an output field name `city` that is 20 characters long and whose value will be the value in `standard.city`.

In this case the FXL expression is a simple reference to the `standard.city` PIX field, so its value will be passed to the `city` output column unmodified.

The second output column mapping shown above instructs FAST to create an output field named `prospctgrp` that is `3` characters long and whose value will be `ATL` if the first three characters of the `coa.zip` field are `303`, otherwise the value will be `OTH`.

In this case the FXL expression is an actual formula that calculates the value passed to the `prospctgrp` output column based on the value in `coa.zip`.

```
prospctgrp(3) = iif(left(coa.zip, 3) = "303", "ATL", "OTH")
```

makes use of the coa.zip PIX field, but this field is only populated if the job processed NCOA, as you can see from the yellow-highlighted row in Appendix A: PIX Field Reference.

That means if the job did *not* process NCOA, the FXL expression:

```
iif(left(coa.zip, 3) = "303", "ATL", "OTH")
```

would attempt to evaluate the first 3 characters of an empty field. Thankfully, FXL is very forgiving, so:

```
left(coa.zip, 3)
```

results in an empty string when coa.zip is empty, which means that in this case

```
iif(left(coa.zip, 3) = "303", "ATL", "OTH")
```

will always evaluate to "OTH".

The Output Column Mappings are optional. If you don't specify any output column mappings then the defaults will be used.

The default set of output column mappings for both the unfiltered records file and all output files is:

```
FAST.#DefaultOutputFields#
original.#AllInputFields#
```

These two special tokens instruct FAST to create the file with all the default columns for each service that was run, followed by all your original data input file's columns and data.

FAST.#DefaultOutputFields#

If you want to specify that all default output fields for the services that FAST processed on your job are added to the file, you don't have to explicitly specify each one of them. You can instead place the DefaultOutputFields token where you want those fields to appear, like this:

```
CompanyName(30) = original.firm
FAST.#DefaultOutputFields#
FactorCode(2) = iif(sub(trim(original.firm), 1, 3) = "Fed", "FE", "CL")
```

This set of mappings will create in the file a column named CompanyName that is 30 characters long which will be populated with the processed value of original.firm, followed by columns for all the default fields for all the services FAST processed on the job, followed by a column named FactorCode that is 2

characters long and which will be populated with either FE or CL, depending upon the first three characters of the name of the company.

Original.#AllInputFields#

Likewise, if you want to specify that a copy of all your original data is copied back into the processed file, you can place the AllInputFields token where you want those fields to appear, like this:

```
CompanyName(30) = original.firm
Original.#AllInputFields#
FactorCode(2) = iif(sub(trim(original.firm), 1, 3) = "Fed", "FE", "CL")
```

Output File

Each Output File section contains three specifications – **Output File Name**, **Record Filter**, and the **Output Column Mappings** – which together specify a single output file that will be populated with records that match the filtering criteria:

```
OUTPUT FILE
* ---------------------------------------------------------------------------
* This is a processed file that Peachtree Data sends back to you.
*
* If you want us to return multiple output files to you, just copy and paste
* the entire OUTPUT FILE section multiple times and modify the specifications
* as needed.

Output File Name:.......................................................... = HardwareVendors
* You may use any file name extension up to 10 characters long.
* If you do not specify a file name extension then one will be created based
* on the Output Data File Type and Output Delimiter:
    * Fixed            = .txt
    * Dbase            = .dbf
    * Delimited, comma = .csv
    * Delimited, pipe  = .txt
    * Delimited, tab   = .txt

Record Filter:............................................................ = original.category = "HW"
* If you want only certain records in this output file, specify the
* expression here.

* Examples:
* original.CreditScore >= 700   --> CreditScore greater than or equal to 700
* Left(standard.Zip, 3) = "303" --> Zip begins with 303

* ---------------------------------------------------------------------------
* Define the columns in this Output File below this line.
* (default: FAST.#DefaultOutputFields# followed by original.#AllInputFields#)

id(7)           = pix.rowid
fullname(30)    = original.fullname
address1(40)    = standard.address.primary
address2(40)    = standard.address.secondary
city(20)        = standard.city
state(2)        = standard.state
zip(10)         = standard.zip10
prospctgrp(3)   = iif(sub(coa.zip, 1, 3) = "303", "ATL", "OTH")

* Examples:

* CompanyName(30) = original.firm
* FactorCode(2) = iif(sub(trim(original.firm), 1, 3) = "Fed", "FE", "CL")

* (refer to "How to Prepare and Submit a FAST Job" for full details)
* ---------------------------------------------------------------------------
```

Output Column Mappings

Output File Name

The filename you want FAST to use. You can specify just the filename root, or you can optionally add an extension of your choice up to 10 characters long.

Record Filter

A record filter is a FAST Expression Language (FXL) expression that describes the criteria that qualify a record for inclusion in the corresponding output file.

It's just like watching *Die Hard* in 3D

If you can stand the sheer excitement of it all, read through **Appendix C: FAST Expression Language (FXL)** to learn more about how FAST expressions work.

For example, let's say you want all people named Edna, Eunice, Agnes, and Gladys to go into an output file named GrannyNames, you would specify:

```
Output File name = GrannyNames
Record Filter = "Edna,Eunice,Agnes,Gladys" contains original.firstname
```

It's a good idea to name each file in a way that describes its Record Filter. For example, you might specify:

```
Output File Name = georgia
```

if its corresponding record filter is:

```
Record Filter = standard.state = "GA"
```

Output Column Mappings

The output column mappings work in exactly the way for Output File sections as they do for the Unfiltered Records File section.

Please refer to Output Column Mappings for documentation.

Where to Find the Template

Your copy of Peachtree Data's FASToutput.txt template is in the `FAST Starter Kit.zip` that contained this document you're now reading.

Your Input Data File

It doesn't matter what you name your input data file because:

- a job's Zip file may contain only FAST specification files plus one additional file, and
- that one additional file is used as your input data file.

Preparing Your Job

Your FAST job will look something like this:

Your job will consist of a single Zip file whose name ends in ".fast.zip".

We will consider the portion of the Zip file name before the first period to be your customer PO number for the job. So in the example illustration above, the customer PO number would be "Project Cameron 7".

The Zip file may not contain any folders.

The Zip file may not contain any files other than:

- FASTservices.txt
- FASTinput.txt
- FASToutput.txt
- Your data input file

Your Zip file *must* contain at least these files:

- FASTservices.txt
- FASTinput.txt
- Your data input file

PGP Encrypted Job Files

Our FAST system supports job files that are PGP encrypted. To submit an encrypted file to FAST you will need to request our PGP public key from your sales representative.

When submitting a file to our FAST system, it must end in “.fast.pgp”. We will consider the portion of the PGP file name before the first period to be your customer PO number for the job. For a job file named “Project Cameron 7.fast.pgp”, the customer PO number would be "Project Cameron 7".

Your PGP public key will need to be included in the PGP file you send us so the return file can be PGP encrypted and returned. Your public key must have an “.asc” extension to ensure we know which file is your PGP public key file and which file is the data file. A -output is appended to your PO number to create the output file name so the return file, based on the example above, would be called “Project Cameron 7-output.pgp”.

The PGP file may not contain any files other than:

- FASTservices.txt (required)
- FASTinput.txt (required)
- Your public key (required) (must be .asc extension)
- Your data input file (required)
- FASToutput.txt (optional)

The PGP file ***cannot*** contain folders. Compressed files such as zip files or container files, such as tar files, are accepted and your return PGP file will contain the same type of compressed file.

Sending Your Job to Peachtree Data for Processing

Upload your job's file to your SecureFTP account, and Peachtree Data will do the rest.

You'll be notified via email when your job has finished processing, or if there was a problem with your job.

Appendix A: PIX Field Reference

PIX is the Peachtree Interchange format in which processed data is formatted.

Legend

● = always available.

x = the given column will only be populated with data if the associated service is run. If more than one service has an X, all such services must be run for the column to contain data.

* = this is a move/replace column; if there is a COA address, it will contain the same data as the associated "coa." column; otherwise it will contain the same data as its associated "standard." column. If NCOA was not run, the column will always contain the same data as its associated "standard." column.

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	pix.rowid	10	Unique identifier assigned during processing
x																		standard.address	60	The full standardized address line.
x																		standard.address.primary	60	The standardized primary address line.
x																		standard.address.primary.predirection	2	Abbreviated predirectional (N, NE, E, SE, S, SW, W, NW).
x																		standard.address.primary.range	10	Standardized primary range (such as a house number).
x																		standard.address.primary.name	28	Standardized primary name (usually street name).
x																		standard.address.primary.suffix	4	Abbreviated suffix (St, Ave, Blvd, Rd, and so on).
x																		standard.address.primary.postdirection	2	Abbreviated postdirectional (N, NE, E, SE, S, SW, W, NW).
x																		standard.address.secondary	60	The standardized secondary address line.
x																		standard.address.secondary.unit	10	Secondary address unit designator.
x																		standard.address.secondary.range	8	Secondary address range.
x																		standard.address.pobox	9	PO Box number.
x																		standard.address.ruralroutenumber	9	Rural route number.
x																		standard.address.ruralroutebox	9	Rural route box number.
x																		standard.npaddress.secondary	20	Complete non-postal secondary address.
x																		standard.npaddress.secondary.range	10	Range information from non-postal secondary address.
x																		standard.npaddress.secondary.unit	10	Unit designator from non-postal secondary address.

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
x																		standard.pmb.number	14	Best-guess of private mail box number.
x																		standard.pmb.range	14	Best-guess of PMB secondary range.
x																		standard.pmb	28	Best-guess of private mail box information.
x																		standard.remainder	60	Extra non-address information found below or in the address line.
x																		standard.city	28	The standardized city name.
x																		standard.city.abbreviation	13	The standardized USPS city abbreviation.
x																		standard.city.place	28	The standardized USPS place name for the address (preserved from input if unknown)
x																		standard.state	2	The standardized state name.
x																		standard.zip	5	The standardized 5-digit ZIP code.
x																		standard.zip.fivedigitmatch	1	T = last line was matched to a city/ZCF record, F = last line was not matched to a city/ZCF record.
x																		standard.zip.validation	1	V = Valid Input ZIP Code, C = Input ZIP Code Changed, X = Invalid Input ZIP Code
x																		standard.zip4	4	The standardized ZIP + 4 code.
x																		standard.zip10	10	ten-digit ZIP code
x																		standard.ziptype	1	M = military, U = unique, blank = standard
x																		standard.cart	4	Carrier-route number
x																		standard.lot	4	Line-of-travel number
x																		standard.lot.order	1	A = Ascending, D = Descending
x																		standard.dpbc	2	2-digit end code for delivery point barcode
x																		standard.dpbc.checkdigit	1	check digit for full delivery point barcode
x																		standard.urbanization	60	The standardized urbanization name for PR addresses.
x																		standard.multiline.line1	60	The first line of the multiline address block. If discrete mappings were made in the customer's input file, this will be the standardized version of the first mapped address line. If multiline mappings were made in the customer's input file, this will be the first line of a "floating" address block.
x																		standard.multiline.line2	60	The second line of the multiline address block. If discrete mappings were made in the customer's input file, this will be the standardized version of the second mapped address line. If multiline mappings were made in the customer's input file, this will be the second line of a "floating" address block.
x																		standard.multiline.line3	60	The third line of the multiline address block. If discrete mappings were made in the customer's input file, this will be the standardized version of the third mapped address line. If multiline mappings were made in the customer's input file, this will be the third line of a "floating" address block.
x																		standard.multiline.line4	60	The fourth line of the multiline address block. If discrete mappings were made in the customer's input file, this will be the standardized version of the fourth mapped address line. If multiline mappings were made in the customer's input file, this will be the fourth line of a "floating" address block.

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
x																		standard.multiline.line5	60	The fifth line of the multiline address block. If multiline mappings were made in the customer's input file, this will be the fifth line of a "floating" address block. This field will always be empty if discrete mappings were made in the customer's input file.
x																		standard.multiline.line6	60	The sixth line of the multiline address block. If multiline mappings were made in the customer's input file, this will be the sixth line of a "floating" address block. This field will always be empty if discrete mappings were made in the customer's input file.
x																		standard.multiline.line7	60	The seventh line of the multiline address block. If multiline mappings were made in the customer's input file, this will be the seventh line of a "floating" address block. This field will always be empty if discrete mappings were made in the customer's input file.
x																		standard.multiline.line8	60	The eighth line of the multiline address block. If multiline mappings were made in the customer's input file, this will be the eighth line of a "floating" address block. This field will always be empty if discrete mappings were made in the customer's input file.
x																		standard.multiline.line9	60	The ninth line of the multiline address block. If multiline mappings were made in the customer's input file, this will be the ninth line of a "floating" address block. This field will always be empty if discrete mappings were made in the customer's input file.
x																		standard.multiline.line10	60	The tenth line of the multiline address block. If multiline mappings were made in the customer's input file, this will be the tenth line of a "floating" address block. This field will always be empty if discrete mappings were made in the customer's input file.
x																		standard.multiline.line11	60	The eleventh line of the multiline address block. If multiline mappings were made in the customer's input file, this will be the eleventh line of a "floating" address block. This field will always be empty if discrete mappings were made in the customer's input file.
x																		standard.multiline.line12	60	The twelfth line of the multiline address block. If multiline mappings were made in the customer's input file, this will be the twelfth line of a "floating" address block. This field will always be empty if discrete mappings were made in the customer's input file.
x																		standard.extra.line1	60	The first line of "extra" information that was present in a multiline address block. Note that standard.extra fields fill from the "bottom" up, meaning that line 10 is populated before line 9, etc. This field will be blank if the customer's input file contained discrete address field mappings.
x																		standard.extra.line2	60	The second line of "extra" information that was present in a multiline address block. Note that standard.extra fields fill from the "bottom" up, meaning that line 10 is populated before line 9, etc. This field will be blank if the customer's input file contained discrete address field mappings.

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
x																		standard.extra.line3	60	The third line of "extra" information that was present in a multiline address block. Note that standard.extra fields fill from the "bottom" up, meaning that line 10 is populated before line 9, etc. This field will be blank if the customer's input file contained discrete address field mappings.
x																		standard.extra.line4	60	The fourth line of "extra" information that was present in a multiline address block. Note that standard.extra fields fill from the "bottom" up, meaning that line 10 is populated before line 9, etc. This field will be blank if the customer's input file contained discrete address field mappings.
x																		standard.extra.line5	60	The five line of "extra" information that was present in a multiline address block. Note that standard.extra fields fill from the "bottom" up, meaning that line 10 is populated before line 9, etc. This field will be blank if the customer's input file contained discrete address field mappings.
x																		standard.extra.line6	60	The sixth line of "extra" information that was present in a multiline address block. Note that standard.extra fields fill from the "bottom" up, meaning that line 10 is populated before line 9, etc. This field will be blank if the customer's input file contained discrete address field mappings.
x																		standard.extra.line7	60	The seventh line of "extra" information that was present in a multiline address block. Note that standard.extra fields fill from the "bottom" up, meaning that line 10 is populated before line 9, etc. This field will be blank if the customer's input file contained discrete address field mappings.
x																		standard.extra.line8	60	The eighth line of "extra" information that was present in a multiline address block. Note that standard.extra fields fill from the "bottom" up, meaning that line 10 is populated before line 9, etc. This field will be blank if the customer's input file contained discrete address field mappings.
x																		standard.extra.line9	60	The ninth line of "extra" information that was present in a multiline address block. Note that standard.extra fields fill from the "bottom" up, meaning that line 10 is populated before line 9, etc. This field will be blank if the customer's input file contained discrete address field mappings.
x																		standard.extra.line10	60	The tenth line of "extra" information that was present in a multiline address block. Note that standard.extra fields fill from the "bottom" up, meaning that line 10 is populated before line 9, etc. This field will be blank if the customer's input file contained discrete address field mappings.
x																		standard.fipscode	5	Full FIPS Code.
x																		standard.county.code	3	The FIPS County Code.
x																		standard.county.name	25	The County Name.
x																		standard.congressionaldistrict	3	The U.S. Congressional district number.

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
			x															standard.geo.match	1	Geo match code. 0 = Address level match, 1 = 9-digit Centroid match, 4 = 7-digit Centroid match, 5 = 5-digit Centroid match, 7 = no Centroid match, 8 = no Address level match, 9 = no match in either; both tried
			x															standard.geo.block	10	Tract and block number
			x															standard.geo.latitude	10	Latitude
			x															standard.geo.longitude	11	Longitude
			x															standard.geo.msa	4	The Metropolitan Statistical Area within which a given address falls.
			x															standard.geo.cbsa	5	CBSAs are either metropolitan (population of at least 50,000) or micropolitan (population between 10,000 and 50,000). With CBSAs, you can collect statistics for less urban areas of the country. CBSAs cover approximately 90 percent of the entire U.S. population.
			x															standard.geo.exact	1	1 = exact match, blank = unassigned
			x															standard.geo.county.code	3	FIPS county code (address level geocode source)
			x															standard.geo.state.code	2	FIPS state code (address level geocode source)
			x															standard.geo.place.code	5	FIPS place code (address level geocode source)
x																		standard.cass.matchoption	1	0 = no tie break options used or tie-break options disabled, 1 = Inexact ZIP move assignment, 2 = Input ZIP+4 assignment, 3 = DPV tie-breaking used, blank = could not assign input
x																		standard.cass.recordtype	1	F = firm, G = general delivery, H = high-rise, P = PO Box, R = rural route or hwy contract, S = street, blank = unassigned
x																		standard.dpv.dna	1	Y = carrier cannot access receptacle or door, N = carrier can access receptacle or door, blank = unassigned
x																		standard.dpv.nsl	1	Y = address has no secure location, N = address has a secure location, blank = unassigned
x																		standard.dpv.pobop	1	Y = Zip code is a PO box only zone, N = Zip code is not a PO box only zone, blank = unassigned
x																		standard.dpv.ndd	1	Y = there are no delivery days, blank = unassigned
x																		standard.dpv.ndd.sunday	1	Y = non delivery day, N = delivery day, blank = unassigned
x																		standard.dpv.ndd.monday	1	Y = non delivery day, N = delivery day, blank = unassigned
x																		standard.dpv.ndd.tuesday	1	Y = non delivery day, N = delivery day, blank = unassigned
x																		standard.dpv.ndd.wednesday	1	Y = non delivery day, N = delivery day, blank = unassigned
x																		standard.dpv.ndd.Thursday	1	Y = non delivery day, N = delivery day, blank = unassigned
x																		standard.dpv.ndd.Friday	1	Y = non delivery day, N = delivery day, blank = unassigned
x																		standard.dpv.ndd.saturday	1	Y = non delivery day, N = delivery day, blank = unassigned
x																		standard.dpv.cmra	1	Y = The address is a CMRA, N = The address is not a CMRA, L = The address triggered a DPV lock, blank = could not assign
x																		standard.dpv.footnote	12	DPV footer codes

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
x																		standard.dpv.footnote.aa	1	Y = The DPV footnote contained AA, N = The DPV footnote did not contain AA.
x																		standard.dpv.footnote.a1	1	Y = The DPV footnote contained A1, N = The DPV footnote did not contain A1.
x																		standard.dpv.footnote.bb	1	Y = The DPV footnote contained BB, N = The DPV footnote did not contain BB.
x																		standard.dpv.footnote.cc	1	Y = The DPV footnote contained CC, N = The DPV footnote did not contain CC.
x																		standard.dpv.footnote.m1	1	Y = The DPV footnote contained M1, N = The DPV footnote did not contain M1.
x																		standard.dpv.footnote.m3	1	Y = The DPV footnote contained M3, N = The DPV footnote did not contain M3.
x																		standard.dpv.footnote.n1	1	Y = The DPV footnote contained N1, N = The DPV footnote did not contain N1.
x																		standard.dpv.footnote.p1	1	Y = The DPV footnote contained P1, N = The DPV footnote did not contain P1.
x																		standard.dpv.footnote.p3	1	Y = The DPV footnote contained P3, N = The DPV footnote did not contain P3.
x																		standard.dpv.footnote.rr	1	Y = The DPV footnote contained RR, N = The DPV footnote did not contain RR.
x																		standard.dpv.footnote.r1	1	Y = The DPV footnote contained R1, N = The DPV footnote did not contain R1.
x																		standard.dpv.footnote.f1	1	Y = The DPV footnote contained F1, N = The DPV footnote did not contain F1.
x																		standard.dpv.footnote.g1	1	Y = The DPV footnote contained G1, N = The DPV footnote did not contain G1.
x																		standard.dpv.footnote.u1	1	Y = The DPV footnote contained U1, N = The DPV footnote did not contain U1.
x																		standard.dpv.nostat	1	Y = Address is No Stat, N = Address is not No Stat, blank = address was not looked up.
x																		standard.dpv.status	1	Y = confirmed delivery point, N = not a valid delivery point, S = primary range is valid, secondary range wrong, D = no secondary range, L = address triggered a DPV lock, blank = could not assign
x																		standard.dpv.vacant	1	Y = vacant address, N = non-vacant address, blank = not looked up
		x																standard.dsf.business	1	Y = business address, N = non-business address, blank = not looked up
		x																standard.dsf.deliverytype	1	1 = Curb-side delivery, 2 = NDCBU (Neighborhood Delivery Centralized Box Unit) delivery, 3 = Central delivery, 4 = Door-slot delivery, blank = not looked up
		x																standard.dsf.drop	1	Y = Delivery point serves multiple business or families, N = Delivery point serves single business or family, blank = not looked up
		x																standard.dsf.drop.count	3	The number of business or families served by this drop point, assuming that standard.DsfDropIndicator is Y
		x																standard.dsf.educational	1	Y = The address is an educational institution, N = the address is not an educational institution, blank = not looked up
		x																standard.dsf.lacs	1	Y = Address is LACS convertible, N = address is not LACS convertible, blank = not looked up
		x																standard.dsf.recordtype	1	B = Business Address, R = Residential Address, U = Unknown Address, blank = not available
		x																standard.dsf.seasonal	1	Y = Seasonal address, N = Non-seasonal address, blank = not looked up
		x																standard.dsf.walksequence	4	Walk sequence number. If DSF is being performed at the same time as NCOA, the sequence is based on the coa. fields rather than the standard. fields.
		x																standard.dsf.walksequence.source	1	O = walk sequence is based on original address, M = walk sequence is based on the move-updated address.

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
		x																standard.dsf.throwback	1	Y = customer with street address wants delivery at PO Box instead, N = no throwback necessary, blank = not looked up
		x																standard.dsf.score	1	DSF Mail Score
x																		standard.suitelink.returncode	2	A = SuiteLink match - secondary information exists and was assigned to this record, 00 = SuiteLink no match, blank = no lookup attempted
x																		standard.errororstatuscode	6	Error code, if address is unassigned, or status code, if address is assigned.
x																		standard.ews.match	1	Y = address is located in the EWS directory, N = address is not in the EWS directory
x																		standard.lacs.code	1	T = address needs 911 conversion and should be submitted to a LACS vendor, F = address does not need LACS conversion, blank = address was not assigned
x																		standard.lacs.indicator	1	Y = address was found in LACSLink directories, N = address looked up but not converted, F = address was a false positive, S = conversion was made, but secondary information was dropped, blank = no lookup attempted
x																		standard.lacs.returncode	2	A = LACSLink record match. 00 = No match, 09 = match to old address, no new address provided, 14 = found LACSLink record, but couldn't convert the data to a deliverable address, 92 = LACSLink record matched after dropping the secondary number from the input address, blank = no lookup attempted
x																		standard.recordtype	2	Record type indicator for the address
x																		dual.address	60	The full standardized dual address line.
x																		dual.address.primary	60	The standardized dual primary address line.
x																		dual.address.primary.predirection	2	Abbreviated dual predirectional (N, NE, E, SE, S, SW, W, NW).
x																		dual.address.primary.range	10	Standardized dual primary range (such as a house number).
x																		dual.address.primary.name	28	Standardized dual primary name (usually street name).
x																		dual.address.primary.suffix	4	Abbreviated dual suffix (St, Ave, Blvd, Rd, and so on).
x																		dual.address.primary.postdirection	2	Abbreviated dual postdirectional (N, NE, E, SE, S, SW, W, NW).
x																		dual.address.secondary	60	The standardized dual secondary address line.
x																		dual.address.secondary.unit	10	Dual secondary address unit designator.
x																		dual.address.secondary.range	8	Dual secondary address range.
x																		dual.address.pobox	9	Dual PO Box number.
x																		dual.address.ruralroutenumber	9	Dual Rural route number.
x																		dual.address.ruralroutebox	9	Dual Rural route box number.
x																		dual.pmb	28	Best-guess of dual private mail box information.
x																		dual.pmb.number	14	Best-guess of dual private mail box number.
x																		dual.pmb.range	14	Best-guess of dual PMB secondary range.
x																		dual.remainder	60	Extra non-address information found below or in the dual address line.
x																		dual.urbanization	60	The standardized urbanization name for dual PR addresses.
x																		dual.recordtype	1	Record type indicator for the dual address
	x			x	x										x			coa.source	1	N = NCOA source, P = PCOA source, C = Canadian, blank = no COA information present

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
	x			x	x													coa.address	60	The full standardized address line.
	x			x	x													coa.address.primary	60	The standardized primary address line.
	x			x	x													coa.address.primary.predirection	2	Abbreviated predirectional (N, NE, E, SE, S, SW, W, NW).
	x			x	x													coa.address.primary.range	10	Standardized primary range (such as a house number).
	x			x	x													coa.address.primary.name	28	Standardized primary name (usually street name).
	x			x	x													coa.address.primary.suffix	4	Abbreviated suffix (St, Ave, Blvd, Rd, and so on).
	x			x	x													coa.address.primary.postdirection	2	Abbreviated postdirectional (N, NE, E, SE, S, SW, W, NW).
	x			x	x													coa.address.secondary	60	The standardized secondary address line.
	x			x	x													coa.address.secondary.unit	10	Secondary address unit designator.
	x			x	x													coa.address.secondary.range	8	Secondary address range.
	x																	coa.address.pobox	9	PO Box number.
	x																	coa.address.ruralroutenumber	9	Rural route number.
	x																	coa.address.ruralroutebox	9	Rural route box number.
	x																	coa.npaddress.secondary	20	Complete non-postal secondary address.
	x																	coa.npaddress.secondary.range	10	Range information from non-postal secondary address.
	x																	coa.npaddress.secondary.unit	10	Unit designator from non-postal secondary address.
	x																	coa.pmb	28	Best-guess of private mail box information.
	x			x	x													coa.city	28	The standardized city name.
	x			x	x													coa.city.abbreviation	13	The standardized USPS city abbreviation.
	x			x	x													coa.city.place	28	The standardized USPS place name for the address (preserved from input if unknown)
	x			x	x													coa.state	2	The standardized state name.
	x			x	x													coa.zip	5	The standardized 5-digit ZIP code.
	x			x	x													coa.zip4	4	The standardized ZIP + 4 code.
	x			x	x													coa.zip10	10	ten-digit ZIP code
	x			x	x													coa.cart	4	Carrier-route number
	x			x	x													coa.lot	4	Line-of-travel number
	x			x	x													coa.lot.order	1	A = Ascending, D = Descending
	x			x	x													coa.dpbc	2	2-digit end code for delivery point barcode
	x			x	x													coa.dpbc.checkdigit	1	check digit for full delivery point barcode
	x			x	x													coa.urbanization	60	The standardized urbanization name for PR addresses.
	x			x														coa.fipscode	5	Full FIPS Code.

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
				x														coa.ews.match	1	Early Warning System If a record matches to this file it means that even though a ZIP + 4 code was not returned the address is valid, and a ZIP + 4 will be available soon - typically within the next monthly CASS update. Y = Matched N = No Match
	x																	coa.county.code	3	The FIPS County Code.
	x																	coa.county.name	25	The County Name.
	x																	coa.congressionaldistrict	3	The U.S. Congressional district number.
					x													coa.pcoaplus.confirm	1	PCOA+ Confirm Field D = name and address confirmed, and address is valid based on DPV status U = name and address confirmed, and address is NOT valided based on DPV status
					x													coa.pcoaplus.nixie	2	PCOA+ Nixies NA = Moved No Forward Address Available
					x													coa.pcoaplus.namechange	1	Name change indicator. F = First Name Chg, L = Last Name Chg, M = Middle Name / Initial Chg, X = Mulitple name changes
					x													coa.pcoaplus.firstname	50	Updated First Name
					x													coa.pcoaplus.middlename	50	Updated Middle Name/Initial
					x													coa.pcoaplus.lastname	50	Updated Last Name
					x													coa.pcoaplus.correct	1	Address change: M – Moved, A – Apartment Appended, L – LACS updated, O – other
					x													coa.pcoaplus.lastseendate	6	Date name/address combination was confirmed
					x													coa.pcoaplus.restrictedsource	1	Source Restricted. Y – new address, can't return due to source restriction. N – Most up to date address has been returned
	x		x															coa.geo.match	1	Geo match code. 0 = Address level match, 1 = 9-digit Centroid match, 4 = 7-digit Centroid match, 5 = 5-digit Centroid match, 7 = no Centroid match, 8 = no Address level match, 9 = no match in either; both tried
	x		x															coa.geo.block	10	Tract and block number
	x		x															coa.geo.latitude	10	Latitude
	x		x															coa.geo.longitude	11	Longitude
	x		x															coa.geo.msa	4	The Metropolitan Statistical Area within which a given address falls.
	x		x															coa.geo.cbsa	5	CBSAs are either metropolitan (population of at least 50,000) or micropolitan (population between 10,000 and 50,000). With CBSAs, you can collect statistics for less urban areas of the country. CBSAs cover approximately 90 percent of the entire U.S. population.
	x		x															coa.geo.county.code	3	COA FIPS county code (address level geocode source)
	x		x															coa.geo.state.code	2	COA FIPS state code (address level geocode source)

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
	x		x															coa.geo.place.code	5	COA FIPS place code (address level geocode source)
	x																	coa.geo.exact	1	1 = exact match, blank = unassigned
	x																	coa.cass.matchoption	1	0 = no tie break options used or tie-break options disabled, 1 = Inexact ZIP move assignment, 2 = Input ZIP+4 assignment, 3 = DPV tie-breaking used, blank = could not assign input
	x			x	x													coa.cass.recordtype	1	F = firm, G = general delivery, H = high-rise, P = PO Box, R = rural route or hwy contract, S = street, blank = unassigned
	x																	coa.dpv.dna	1	Y = carrier cannot access receptacle or door, N = carrier can access receptacle or door, blank = unassigned
	x																	coa.dpv.nsl	1	Y = address has no secure location, N = address has a secure location, blank = unassigned
	x																	coa.dpv.pobop	1	Y = Zip code is a PO box only zone, N = Zip code is not a PO box only zone, blank = unassigned
	x																	coa.dpv.ndd	1	Y = there are no delivery days, blank = unassigned
	x																	coa.dpv.ndd.sunday	1	Y = non delivery day, N = delivery day, blank = unassigned
	x																	coa.dpv.ndd.monday	1	Y = non delivery day, N = delivery day, blank = unassigned
	x																	coa.dpv.ndd.tuesday	1	Y = non delivery day, N = delivery day, blank = unassigned
	x																	coa.dpv.ndd.wednesday	1	Y = non delivery day, N = delivery day, blank = unassigned
	x																	coa.dpv.ndd.Thursday	1	Y = non delivery day, N = delivery day, blank = unassigned
	x																	coa.dpv.ndd.Friday	1	Y = non delivery day, N = delivery day, blank = unassigned
	x																	coa.dpv.ndd.saturday	1	Y = non delivery day, N = delivery day, blank = unassigned
	x			x														coa.dpv.cmra	1	Y = The address is a CMRA, N = The address is not a CMRA, L = The address triggered a DPV lock, blank = could not assign
	x			x														coa.dpv.footnote	12	DPV footer codes
	x			x														coa.dpv.footnote.aa	1	Y = The DPV footnote contained AA, N = The DPV footnote did not contain AA.
	x			x														coa.dpv.footnote.a1	1	Y = The DPV footnote contained A1, N = The DPV footnote did not contain A1.
	x			x														coa.dpv.footnote.bb	1	Y = The DPV footnote contained BB, N = The DPV footnote did not contain BB.
	x			x														coa.dpv.footnote.cc	1	Y = The DPV footnote contained CC, N = The DPV footnote did not contain CC.
	x			x														coa.dpv.footnote.m1	1	Y = The DPV footnote contained M1, N = The DPV footnote did not contain M1.
	x			x														coa.dpv.footnote.m3	1	Y = The DPV footnote contained M3, N = The DPV footnote did not contain M3.
	x			x														coa.dpv.footnote.n1	1	Y = The DPV footnote contained N1, N = The DPV footnote did not contain N1.
	x			x														coa.dpv.footnote.p1	1	Y = The DPV footnote contained P1, N = The DPV footnote did not contain P1.
	x			x														coa.dpv.footnote.p3	1	Y = The DPV footnote contained P3, N = The DPV footnote did not contain P3.
	x			x														coa.dpv.footnote.rr	1	Y = The DPV footnote contained RR, N = The DPV footnote did not contain RR.
	x			x														coa.dpv.footnote.r1	1	Y = The DPV footnote contained R1, N = The DPV footnote did not contain R1.
	x			x														coa.dpv.footnote.f1	1	Y = The DPV footnote contained F1, N = The DPV footnote did not contain F1.
	x			x														coa.dpv.footnote.g1	1	Y = The DPV footnote contained G1, N = The DPV footnote did not contain G1.

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
	x			x														coa.dpv.footnote.u1	1	Y = The DPV footnote contained U1, N = The DPV footnote did not contain U1.
	x																	coa.dpv.nostat	1	Y = Address is No Stat, N = Address is not No Stat, blank = address was not looked up.
	x			x														coa.dpv.status	1	Y = confirmed delivery point, N = not a valid delivery point, S = primary range is valid, secondary range wrong, D = no secondary range, L = address triggered a DPV lock, blank = could not assign
	x			x														coa.dpv.vacant	1	Y = vacant address, N = non-vacant address, blank = not looked up
	x	x																coa.dsf.business	1	Y = business address, N = non-business address, blank = not looked up
	x	x																coa.dsf.deliverytype	1	1 = Curb-side delivery, 2 = NDCBU (Neighborhood Delivery Centralized Box Unit) delivery, 3 = Central delivery, 4 = Door-slot delivery, blank = not looked up
	x	x																coa.dsf.drop	1	Y = Delivery point serves multiple business or families, N = Delivery point serves single business or family, blank = not looked up
	x	x																coa.dsf.drop.count	3	The number of business or families served by this drop point, assuming that standard.DsfDropIndicator is Y
	x	x																coa.dsf.educational	1	Y = The address is an educational institution, N = the address is not an educational institution, blank = not looked up
	x	x																coa.dsf.lacs	1	Y = Address is LACS convertible, N = address is not LACS convertible, blank = not looked up
	x	x																coa.dsf.recordtype	1	B = Business Address, R = Residential Address, U = Unknown Address, blank = not available
	x	x																coa.dsf.seasonal	1	Y = Seasonal address, N = Non-seasonal address, blank = not looked up
	x	x																coa.dsf.throwback	1	Y = customer with street address wants delivery at PO Box instead, N = no throwback necessary, blank = not looked up
	x																	coa.suitelink.returncode	2	A = SuiteLink match - secondary information exists and was assigned to this record, 00 = SuiteLink no match, blank = no lookup attempted
	x																	coa.lacs.code	1	T = address needs 911 conversion and should be submitted to a LACS vendor, F = address does not need LACS conversion, blank = address was not assigned
	x			x	x													coa.recordtype	2	Record type indicator for the address
	x			x	x													coa.effectivedate	6	The effective date of the new address.
	x																	coa.errororstatuscode	6	Error code, if address is unassigned, or status code, if address is assigned.
	x																	coa.lookup	40	
	x																	coa.lookup.firm	60	The name of the firm used to do the NCOA lookup.
	x																	coa.lookup.prefix	6	The name prefix used to do the NCOA lookup.
	x																	coa.lookup.firstname	15	The first name used to do the NCOA lookup.
	x																	coa.lookup.middlename	15	The middle name used to do the NCOA lookup.
	x																	coa.lookup.lastname	20	The last name used to do the NCOA lookup.
	x																	coa.lookup.suffix	6	The name suffix used to do the NCOA lookup.
	x			x	x										x			coa.movetype	1	B = business, F = family, I = individual

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
	x			x	x													coa.returncode	2	COA return code
	x			x	x										x			coa.deliverycode	1	COA delivery code
	x			x	x										x			coa.match	1	COA match code
	x			x	x													coa.action	1	COA action
	x			x	x													coa.confidence	1	PCOA confidence code
																	x	coa.distance.miles	6	Move distance calculation in miles
																	x	coa.distance.kilometers	6	Move distance calculation in kilometers
x	*			*	*													movereplace.address	60	The full standardized address line.
x	*			*	*													movereplace.address.primary	60	The standardized primary address line.
x	*			*	*													movereplace.address.primary.predirection	2	Abbreviated predirectional (N, NE, E, SE, S, SW, W, NW).
x	*			*	*													movereplace.address.primary.range	10	Standardized primary range (such as a house number).
x	*			*	*													movereplace.address.primary.name	28	Standardized primary name (usually street name).
x	*			*	*													movereplace.address.primary.suffix	4	Abbreviated suffix (St, Ave, Blvd, Rd, and so on).
x	*			*	*													movereplace.address.primary.postdirection	2	Abbreviated postdirectional (N, NE, E, SE, S, SW, W, NW).
x	*			*	*													movereplace.address.secondary	60	The standardized secondary address line.
x	*			*	*													movereplace.address.secondary.unit	10	Secondary address unit designator.
x	*			*	*													movereplace.address.secondary.range	8	Secondary address range.
x	*																	movereplace.address.pobox	9	PO Box number.
x	*																	movereplace.address.ruralroutenumber	9	Rural route number.
x	*																	movereplace.address.ruralroutebox	9	Rural route box number.
x	*																	movereplace.npaddress.secondary	20	Complete non-postal secondary address.
x	*																	movereplace.npaddress.secondary.range	10	Range information from non-postal secondary address.
x	*																	movereplace.npaddress.secondary.unit	10	Unit designator from non-postal secondary address.
x	*																	movereplace.pmb	28	Best-guess of private mail box information.
x	*			*	*													movereplace.city	28	The standardized city name.
x	*			*	*													movereplace.city.abbreviation	13	The standardized USPS city abbreviation.
x	*			*	*													movereplace.city.place	28	The standardized USPS place name for the address (preserved from input if unknown)
x	*			*	*													movereplace.state	2	The standardized state name.
x	*			*	*													movereplace.zip	5	The standardized 5-digit ZIP code.
x	*			*	*													movereplace.zip4	4	The standardized ZIP + 4 code.
x	*			*	*													movereplace.zip10	10	ten-digit ZIP code
x	*			*	*													movereplace.cart	4	Carrier-route number
x	*			*	*													movereplace.lot	4	Line-of-travel number
x	*			*	*													movereplace.lot.order	1	A = Ascending, D = Descending
x	*			*	*													movereplace.dpbc	2	2-digit end code for delivery point barcode
x	*			*	*													movereplace.dpbc.checkdigit	1	check digit for full delivery point barcode
x	*			*	*													movereplace.urbanization	60	The standardized urbanization name for PR addresses.

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
x	*																	movereplace.fipscode	5	Full FIPS Code.
x	*																	movereplace.county.code	3	The FIPS County Code.
x	*																	movereplace.county.name	25	The County Name.
x	*																	movereplace.congressionaldistrict	3	The U.S. Congressional district number.
x	*		x															movereplace.geo.match	1	Geo match code. 0 = Address level match, 1 = 9-digit Centroid match, 4 = 7-digit Centroid match, 5 = 5-digit Centroid match, 7 = no Centroid match, 8 = no Address level match, 9 = no match in either; both tried
x	*		x															movereplace.geo.block	10	Tract and block number
x	*		x															movereplace.geo.latitude	10	Latitude
x	*		x															movereplace.geo.longitude	11	Longitude
x	*		x															movereplace.geo.msa	4	The Metropolitan Statistical Area within which a given address falls.
x	*		x															movereplace.geo.cbsa	5	CBSAs are either metropolitan (population of at least 50,000) or micropolitan (population between 10,000 and 50,000). With CBSAs, you can collect statistics for less urban areas of the country. CBSAs cover approximately 90 percent of the entire U.S. population.
x	*		x															movereplace.geo.exact	1	1 = Exact match, blank = unassigned
	*		*															movereplace.geo.county.code	3	FIPS county code (address level geocode source)
	*		*															movereplace.geo.state.code	2	FIPS state code (address level geocode source)
	*		*															movereplace.geo.place.code	5	FIPS place code (address level geocode source)
x	*																	movereplace.cass.matchoption	1	0 = no tie break options used or tie-break options disabled, 1 = Inexact ZIP move assignment, 2 = Input ZIP+4 assignment, 3 = DPV tie-breaking used, blank = could not assign input
x	*			*	*													movereplace.cass.recordtype	1	F = firm, G = general delivery, H = high-rise, P = PO Box, R = rural route or hwy contract, S = street, blank = unassigned
x	*																	movereplace.dpv.dna	1	Y = carrier cannot access receptacle or door, N = carrier can access receptacle or door, blank = unassigned
x	*																	movereplace.dpv.nsl	1	Y = address has no secure location, N = address has a secure location, blank = unassigned
x	*																	movereplace.dpv.pobop	1	Y = Zip code is a PO box only zone, N = Zip code is not a PO box only zone, blank = unassigned
x	*																	movereplace.dpv.ndd	1	Y = there are no delivery days, blank = unassigned
x	*																	movereplace.dpv.ndd.sunday	1	Y = non delivery day, N = delivery day, blank = unassigned
x	*																	movereplace.dpv.ndd.monday	1	Y = non delivery day, N = delivery day, blank = unassigned
x	*																	movereplace.dpv.ndd.tuesday	1	Y = non delivery day, N = delivery day, blank = unassigned
x	*																	movereplace.dpv.ndd.wednesday	1	Y = non delivery day, N = delivery day, blank = unassigned
x	*																	movereplace.dpv.ndd.Thursday	1	Y = non delivery day, N = delivery day, blank = unassigned
x	*																	movereplace.dpv.ndd.Friday	1	Y = non delivery day, N = delivery day, blank = unassigned

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x	*																	movereplace.dpv.ndd.saturday	1	Y = non delivery day, N = delivery day, blank = unassigned
x	*			*														movereplace.dpv.cmra	1	Y = The address is a CMRA, N = The address is not a CMRA, L = The address triggered a DPV lock, blank = could not assign
x	*			*														movereplace.dpv.footnote	12	DPV footer codes
x	*			*														movereplace.dpv.footnote.aa	1	Y = The DPV footnote contained AA, N = The DPV footnote did not contain AA.
x	*			*														movereplace.dpv.footnote.a1	1	Y = The DPV footnote contained A1, N = The DPV footnote did not contain A1.
x	*			*														movereplace.dpv.footnote.bb	1	Y = The DPV footnote contained BB, N = The DPV footnote did not contain BB.
x	*			*														movereplace.dpv.footnote.cc	1	Y = The DPV footnote contained CC, N = The DPV footnote did not contain CC.
x	*			*														movereplace.dpv.footnote.m1	1	Y = The DPV footnote contained M1, N = The DPV footnote did not contain M1.
x	*			*														movereplace.dpv.footnote.m3	1	Y = The DPV footnote contained M3, N = The DPV footnote did not contain M3.
x	*			*														movereplace.dpv.footnote.n1	1	Y = The DPV footnote contained N1, N = The DPV footnote did not contain N1.
x	*			*														movereplace.dpv.footnote.p1	1	Y = The DPV footnote contained P1, N = The DPV footnote did not contain P1.
x	*			*														movereplace.dpv.footnote.p3	1	Y = The DPV footnote contained P3, N = The DPV footnote did not contain P3.
x	*			*														movereplace.dpv.footnote.rr	1	Y = The DPV footnote contained RR, N = The DPV footnote did not contain RR.
x	*			*														movereplace.dpv.footnote.r1	1	Y = The DPV footnote contained R1, N = The DPV footnote did not contain R1.
x	*			*														movereplace.dpv.footnote.f1	1	Y = The DPV footnote contained F1, N = The DPV footnote did not contain F1.
x	*			*														movereplace.dpv.footnote.g1	1	Y = The DPV footnote contained G1, N = The DPV footnote did not contain G1.
x	*			*														movereplace.dpv.footnote.u1	1	Y = The DPV footnote contained U1, N = The DPV footnote did not contain U1.
x	*																	movereplace.dpv.nostat	1	Y = Address is No Stat, N = Address is not No Stat, blank = address was not looked up.
x	*			*														movereplace.dpv.status	1	Y = confirmed delivery point, N = not a valid delivery point, S = primary range is valid, secondary range wrong, D = no secondary range, L = address triggered a DPV lock, blank = could not assign
x	*			*														movereplace.dpv.vacant	1	Y = vacant address, N = non-vacant address, blank = not looked up
x	*	x																movereplace.dsf.business	1	Y = business address, N = non-business address, blank = not looked up
x	*	x																movereplace.dsf.deliverytype	1	1 = Curb-side delivery, 2 = NDCBU (Neighborhood Delivery Centralized Box Unit) delivery, 3 = Central delivery, 4 = Door-slot delivery, blank = not looked up
x	*	x																movereplace.dsf.drop	1	Y = Delivery point serves multiple business or families, N = Delivery point serves single business or family, blank = not looked up
x	*	x																movereplace.dsf.drop.count	3	The number of business or families served by this drop point, assuming that standard.DsfDropIndicator is Y
x	*	x																movereplace.dsf.educational	1	Y = The address is an educational institution, N = the address is not an educational institution, blank = not looked up
x	*	x																movereplace.dsf.lacs	1	Y = Address is LACS convertible, N = address is not LACS convertible, blank = not looked up
x	*	x																movereplace.dsf.recordtype	1	B = Business Address, R = Residential Address, U = Unknown Address, blank = not available
x	*	x																movereplace.dsf.seasonal	1	Y = Seasonal address, N = Non-seasonal address, blank = not looked up

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x	*	x																movereplace.dsf.throwback	1	Y = customer with street address wants delivery at PO Box instead, N = no throwback necessary, blank = not looked up
x	*																	movereplace.suitelink.returncode	2	A = SuiteLink match - secondary information exists and was assigned to this record, 00 = SuiteLink no match, blank = no lookup attempted
x	*																	movereplace.lacs.code	1	T = address needs 911 conversion and should be submitted to a LACS vendor, F = address does not need LACS conversion, blank = address was not assigned
x	*			*	*													movereplace.recordtype	2	Record type indicator for the address
																x		dedupe.groupid	10	An ID assigned to a group to show they are duplicates
																x		dedupe.grouprank	1	The ranking of each record within a group. This value will be either M for master, S for subordinate (or duplicate), X for a record that was excluded from the deduplication process, or a blank for unique records
																x		dedupe.groupcount	4	The number of records contained in a group
						x												suppression.dmamps	1	Y = Record matched to DMA Mail Preference Service Database (blank) = No match
						x												suppression.prison	1	Y = Record matched to Prison Database (blank) = No match
					x	x												suppression.deceased	1	Y = Record matched to Deceased Database, P = PCOA+ deceased match (only present if PCOA+ was run), M = Matched to multiple deceased sources (blank) = No match
					x	x												suppression.deceased.dateofbirth	6	If suppression.deceased = Y, the decedent's date of birth in YYYYMM format
					x	x												suppression.deceased.dateofdeath	8	If suppression.deceased = Y, the decedent's date of death in YYYYMMDD format
						x												suppression.deceased.match.firstname	30	Deceased first name
						x												suppression.deceased.match.middlename	30	Deceased middle name
						x												suppression.deceased.match.lastname	30	Deceased last name
						x												suppression.deceased.match.suffix	5	Deceased suffix
						x												suppression.nursinghome	1	Y = Record matched to Nursing Home Database (blank) = No match
							x											apartment.flag	2	A = Apartment was appended 00 = Lookup was attempted, but no apartment was appended (blank) = No lookup was attempted
							x											apartment.number	15	If apartment.flag = A, the apartment number that was appended
								X										phone.appendverify.matchcode	1	N = Append new phone, original had no phone, V = Verified original phone number, O = Original phone number kept, C = Changed - output phone number is different from original input phone, A = Area code is the only thing different
								X										phone.appendverify.confidence	1	Telephone Append Confidence score
								X										phone.appendverify.duplicate	1	D = Duplicate phone number, blank = not a duplicate
								X										phone.appendverify.timezone	1	Time zone

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								X										phone.appendverify.areacode	3	Area code.
								X										phone.appendverify.number	7	Local number.
								X										phone.tps.match	1	Y = Phone matched to DMA do not call, federal do not call, or state-regulated do not call list, N = no match
								X										phone.tps.match.source	2	Do Not Call Match Source
								X										phone.tps.match.federal	1	Y = Phone matched to federal do not call, blank = no match
								X										phone.tps.match.state	1	Y = Phone matched to state-regulated do not call list, blank = no match
								X										phone.tps.match.wireless	1	Y = Phone matched to wireless do not call directory, blank = no match
									x									reversephone.match	1	Y = phone matched to reverse phone directory, blank = no match
									x									reversephone.name.prefix	10	The name prefix (Mr., Mrs., etc.) returned from the reverse phone lookup
									x									reversephone.name.firstname	30	The first name returned from the reverse phone lookup
									x									reversephone.name.lastname	30	The last name returned from the reverse phone lookup
									x									reversephone.name.suffix	3	The name suffix (Jr., Sr., etc.) returned from the reverse phone lookup
									x									reversephone.firm	30	For business matches, the name of the firm returned from the reverse phone lookup
									x									reversephone.firm.firstname	10	For business matches, the first name of the person associated with the firm
									x									reversephone.firm.lastname	20	For business matches, the last name of the person associated with the firm
									x									reversephone.address.primary	40	The primary address returned from the reverse phone lookup
									x									reversephone.address.secondary	40	The secondary address returned from the reverse phone lookup
									x									reversephone.city	25	The city returned from the reverse phone lookup
									x									reversephone.state	2	The state returned from the reverse phone lookup
									x									reversephone.zip	5	The ZIP code returned from the reverse phone lookup
									x									reversephone.zip4	4	The 4-digit ZIP code extension returned from the reverse phone lookup
									x									reversephone.type	1	I = Individual, B = Business
									x									reversephone.phonetype	1	L = Landline, W = Wireless
									x									reversephone.phonescore	1	1 – Public Directory Assistance (Daily Validation), 2 – Private Directory Assistance, Very High Confidence, 3 - Private Directory Assistance, High Confidence, 4 - Private Directory Assistance, Medium Confidence, 5 - Disconnect / Delisted, 6 - Not available for validation, 7 - Unknown / Unable to verify
									x									reversephone.donotcall.state (deprecated)	1	Y = Phone matched to state do not call directory, blank = no match
									x									reversephone.donotcall.federal (deprecated)	1	Y = Phone matched to federal do not call directory, blank = no match
									x									reversephone.donotcall.wireless (deprecated)	1	Y = Phone matched to wireless do not call directory, blank = no match
										x								phone.disconnect.type	1	Phone Type: L = Landline, O = Other, V = VOIP, W = Wireless
										x								phone.disconnect.score	1	Phone Score, values are 1-7
										x								phone.disconnect.flag	1	Y = match to the disconnect file, N = no match
										x								phone.disconnect.telconame	30	Name of the telco
											x							demo.person.age.exact	1	Exact age (in ranges)
											x							demo.person.age.estimated	1	Estimated age

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											x							demo.person.dateofbirth	6	Date of birth in YYYYMM format.
											x							demo.person.homeowner	1	Homeowner
											x							demo.person.income.estimated	1	Estimated income
											x							demo.person.lengthofresidence	1	Length of residence
											x							demo.person.maritalstatus	1	Marital Status
											x							demo.person.mailorderresponder	1	Y = Mail order responder, blank = not mail order responder
											x							demo.person.networth	1	Net Worth
											x							demo.person.occupationtype	1	Occupation Type
											x							demo.household.children	1	Y = Children present, blank = no children present
											x							demo.household.children.number	1	Number of children
											x							demo.household.composition	1	Household Composition
											x							demo.property.homevalue	1	Home Value
											x							demo.property.mfdu	1	Y = Multi-Family Dwelling Unit, blank = not MFDU
											x							demo.property.unitsize	1	Dwelling Unit Size
											x							demo.property.type	1	Property Type
											x							demo.median.education	1	Education level
											x							demo.median.homevalue	1	Median Home value
											x							demo.median.income	1	Median Income
											x							demo.neighborhood.hispanic	1	Y = 80% Hispanic Neighborhood, blank = not 80% Hispanic neighborhood
												x						parsed.gender.score	1	A numeric code indicating the gender and confidence assumed from the name(s) in the input row: 0: Unassigned 1: Male (Strong Confidence) 2: Male (Weak Confidence) 3: Ambiguous 4: Female (Weak Confidence) 5: Female (Strong Confidence) 6: Multiple Names, Mixed 7: Multiple Names, Male 8: Multiple Names, Female 9: Multiple Names, Ambiguous
												x						parsed.gender.code	1	A letter code indicating the gender assumed from the name(s) in the input row: M: Male F: Female U: Unknown

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
												x						parsed.person1.gender.score	1	A numeric code indicating the gender and confidence assumed from the first name found in the input row: 0: Unassigned 1: Male (Strong Confidence) 2: Male (Weak Confidence) 3: Ambiguous 4: Female (Weak Confidence) 5: Female (Strong Confidence)
												x						parsed.person1.gender.code	1	A letter code indicating the gender assumed from the first name found in the input row: M: Male F: Female U: Unknown
													x					parsed.person1.name	40	The full name of the first person found in the input row
													x					parsed.person1.name.prefix	10	The prefix (Mr., Mrs., Dr.) of the first person found in the input row
													x					parsed.person1.name.firstname	18	The first/given name of the first person found in the input row
													x					parsed.person1.name.middlename	18	The middle/second name of the first person found in the input row
													x					parsed.person1.name.lastname	25	The last/family name of the first person found in the input row
													x					parsed.person1.name.suffix	10	The suffix (Jr., Sr.) of the first person found in the input row
												x						parsed.person2.gender.score	1	A numeric code indicating the gender and confidence assumed from the second name found in the input row (if present): 0: Unassigned 1: Male (Strong Confidence) 2: Male (Weak Confidence) 3: Ambiguous 4: Female (Weak Confidence) 5: Female (Strong Confidence)
												x						parsed.person2.gender.code	1	A letter code indicating the gender assumed from the second name found in the input row (if present): M: Male F: Female U: Unknown
													x					parsed.person2.name	40	The full name of the second person found in the input row (if present)
													x					parsed.person2.name.prefix	10	The prefix (Mr., Mrs., Dr.) of the second person found in the input row (if present)
													x					parsed.person2.name.firstname	18	The first/given name of the second person found in the input row (if present)
													x					parsed.person2.name.middlename	18	The middle/second name of the second person found in the input row (if present)
													x					parsed.person2.name.lastname	25	The last/family name of the second person found in the input row (if present)
													x					parsed.person2.name.suffix	10	The suffix (Jr., Sr.) of the second person found in the input row (if present)

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
														x				standard.ca.address.primary	60	First address line
														x				standard.ca.address.secondary	60	Second address line
														x				standard.ca.address.primarysecondary	60	Primary and secondary address in single address line format
														x				standard.ca.address.primary.predirection	2	Street prefix direction
														x				standard.ca.address.primary.range	10	Street number
														x				standard.ca.address.primary.name	28	Street name
														x				standard.ca.address.primary.postdirection	2	Street suffix direction
														x				standard.ca.address.primary.type	40	Street type
														x				standard.ca.address.secondary.range	8	Secondary address number
														x				standard.ca.address.secondary.unit	10	Secondary address type
														x				standard.ca.city	28	City
														x				standard.ca.city13	13	13 character short city name
														x				standard.ca.province	2	Province
														x				standard.ca.postalcode	9	Postal Code
														x				standard.ca.countrycode	2	Country code
														x				standard.ca.extra.line1	60	Extra non-address information found below or in the address line
														x				standard.ca.extra.line2	60	Extra non-address information found below or in the address line
														x				standard.ca.extra.line3	60	Extra non-address information found below or in the address line
														x				standard.ca.extra.line4	60	Extra non-address information found below or in the address line
														x				standard.ca.extra.line5	60	Extra non-address information found below or in the address line
														x				standard.ca.extra.line6	60	Extra non-address information found below or in the address line
														x				standard.ca.extra.line7	60	Extra non-address information found below or in the address line
														x				standard.ca.extra.line8	60	Extra non-address information found below or in the address line
														x				standard.ca.extra.line9	60	Extra non-address information found below or in the address line
														x				standard.ca.extra.line10	60	Extra non-address information found below or in the address line
														x				standard.ca.extra.line11	60	Extra non-address information found below or in the address line
														x				standard.ca.extra.line12	60	Extra non-address information found below or in the address line
														x				standard.ca.remainderfull		Extra non-address information found In any line
														x				standard.ca.status	1	Status code: V: Valid C: Corrected I: Invalid

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
														x				standard.ca.qualitycode	2	Address Quality Code Q1: Validated without corrections Q2: Validated with corrections Q3: Partially validated, high likelihood of delivery Q4: Partially validated, fair likelihood of delivery Q5: Partially validated, small likelihood of delivery Q6: Partially validated, highly unlikely address is deliverable
														x				standard.ca.address.type	2	Address Type BN: Building name F: Firm G: General delivery H: High-rise building M: Military R: Rural P: Postal S: Street SR: Street server by route X: Unknown or unassigned
														x				standard.ca.infocode	5	4 digit code if address couldn't be assigned
														x				standard.ca.deliveryinstallation.name	30	Delivery installation city name
														x				standard.ca.deliveryinstallation.type	20	Delivery installation type PO = Post Office RPO = Retail Post Outlet STN = Station LCD = Letter Carrier Depot CMC = Community Mail Center CDO = Commercial Dealership Outlet
														x				standard.ca.deliveryinstallation.qualifier	20	Delivery installation qualifier
															x			coa.ca.address.primary	60	First address line
															x			coa.ca.address.secondary	60	Second address line
															x			coa.ca.address.primarysecondary	60	Primary and secondary address in single address line format
															x			coa.ca.address.primary.predirection	2	Street prefix direction
															x			coa.ca.address.primary.range	10	Street number
															x			coa.ca.address.primary.name	28	Street name
															x			coa.ca.address.primary.postdirection	2	Street suffix direction
															x			coa.ca.address.primary.type	40	Street type
															x			coa.ca.address.secondary.range	8	Secondary address number
															x			coa.ca.address.secondary.unit	10	Secondary address type

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															x			coa.ca.city	28	City
															x			coa.ca.city13	13	13 character short city name
															x			coa.ca.province	2	Province
															x			coa.ca.postalcode	9	Postal Code
															x			coa.ca.countrycode	2	Country code
															x			coa.ca.status	1	Status code: V: Valid C: Corrected I: Invalid
															x			coa.ca.qualitycode	2	Address Quality Code Q1: Validated without corrections Q2: Validated with corrections Q3: Partially validated, high likelihood of delivery Q4: Partially validated, fair likelihood of delivery Q5: Partially validated, small likelihood of delivery Q6: Partially validated, highly unlikely address is deliverable
															x			coa.ca.address.type	2	Address Type BN: Building name F: Firm G: General delivery H: High-rise building M: Military R: Rural P: Postal S: Street SR: Street server by route X: Unknown or unassigned
															x			coa.ca.infocode	5	4 digit code if address couldn't be assigned
															X			coa.ca.returncode	1	Return code B = COA Match, move back M = COA Match, business, family or individual N = COA Match, left no address Q = No match, name U = Could not verify address Z = No match, address
															x			coa.ca.deliveryinstallation.name	30	Delivery installation city name

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
															x			coa.ca.deliveryinstallation.type	20	Delivery installation type PO = Post Office RPO = Retail Post Outlet STN = Station LCD = Letter Carrier Depot CMC = Community Mail Center CDO = Commercial Dealership Outlet
															x			coa.ca.deliveryinstallation.qualifier	20	Delivery installation qualifier
														x	x			movereplace.ca.address.primary	60	First address line
														x	x			movereplace.ca.address.secondary	60	Second address line
														x	x			movereplace.ca.address.primarysecondary	60	Primary and secondary address in single address line format
														x	x			movereplace.ca.address.primary.predirection	2	Street prefix direction
														x	x			movereplace.ca.address.primary.range	10	Street number
														x	x			movereplace.ca.address.primary.name	28	Street name
														x	x			movereplace.ca.address.primary.postdirection	2	Street suffix direction
														x	x			movereplace.ca.address.primary.type	40	Street type
														x	x			movereplace.ca.address.secondary.range	8	Secondary address number
														x	x			movereplace.ca.address.secondary.unit	10	Secondary address type
														x	x			movereplace.ca.city	28	City
														x	x			movereplace.ca.city13	13	13 character short city name
														x	x			movereplace.ca.province	2	Province
														x	x			movereplace.ca.postalcode	9	Postal Code
														x	x			movereplace.ca.countrycode	2	Country code
														x	x			movereplace.ca.status	1	Status code: V: Valid C: Corrected I: Invalid
														x	x			movereplace.ca.qualitycode	2	Address Quality Code Q1: Validated without corrections Q2: Validated with corrections Q3: Partially validated, high likelihood of delivery Q4: Partially validated, fair likelihood of delivery Q5: Partially validated, small likelihood of delivery Q6: Partially validated, highly unlikely address is deliverable
														x	x			movereplace.ca.address.type	2	Address Type P: Postal S: Street X: Unknown

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Phone Append	Reverse Phone Append	Phone Disconnect	Demographic Append	Gender Append	Name Parsing	CASS Canada	NCOA Canada	Deduplication	MoveDistance	PIX field name	Length	Description
														x	x			movereplace.ca.infocode	5	4 digit code if address couldn't be assigned
														x	x			movereplace.ca.deliveryinstallation.name	30	Delivery installation city name
														x	x			movereplace.ca.deliveryinstallation.type	20	Delivery installation type PO = Post Office RPO = Retail Post Outlet STN = Station LCD = Letter Carrier Depot CMC = Community Mail Center CDO = Commercial Dealership Outlet
														x	x			movereplace.ca.deliveryinstallation.qualifier	20	Delivery installation qualifier

Email Verify Service Fields

Default Output	PIX field name	Default field name	Length	Description
X	email.validation.status	em_v_stat	15	Valid = Passed all checks and is safe to mail Invalid = Invalid syntax, the domain is dead, or the mailbox doesn't exist Risky = The email address is valid but it may cause delivery issues (e.g. spam trap, honeypot or complainer) Unverifiable = The domain doesn't support a mailbox level check Unknown = We couldn't get a response in time Corrected = Fix was made to original email
X	email.validation.detailcode	em_v_dcode	4	Detail code describing the validation result of the input email address. See report for details.
X	email.validation.domaintype	em_v_dtype	15	biz = Company disposable = Disposable domain edu = Educational institution freeisp = Free ISP (internet service provider) gov = Government institution org = Non-profit organization paidisp = Paid ISP wireless = Wireless domain. Do not send unsolicited emails.
X	email.validation.role	em_v_role	1	Y = Role/group mailbox Blank = Not a role/group mailbox.
X	email.validation.duplicate	em_v_dupe	1	Y = Duplicate Blank = Not Duplicate
X	email.validation.address	em_v_addr	100	Email address you can safely mail to. This is populated when the validation status is "valid" or "corrected"

Email Append Service Fields

Default Output	PIX field name	Default field name	Length	Description
X	email.append.address	em_a_addr	100	
X	email.append.matchtype	em_a_mtype	1	H = household match I = Individual match

Reverse Email Append Service Fields

Default Output	PIX field name	Default field name	Length	Description
X	reverseemail.match	rvem_match	1	Y = Matched email address to a name and address blank = Did not match the email address
X	reverseemail.name.firstname	rvem_fname	30	First name for the matched email address
X	reverseemail.name.lastname	rvem_lname	30	Last name for the matched email address
X	reverseemail.address.primary	rvem_paddr	60	Address for the matched email address
X	reverseemail.city	rvem_city	28	City for the matched email address
X	reverseemail.state	rvem_state	2	State for the matched email address
X	reverseemail.zip	rvem_zip	5	Zip code for the matched email address

Cell Phone Append Service Fields

Default Output	PIX field name	Default field name	Length	Description
x	phone.cell.number	cell_num	10	Phone number appended
x	phone.cell.phonetype	cell_ptype	1	L - Land Line, O - Other, V - VoIP, W - Wireless
x	phone.cell.score	cell_score	1	1 - Public DA (Daily Validation), 2 - Private Very High Confidence (Near Term Telco plus Transactional Verification), 3 - Private High Confidence (Moderate Term Telco plus Transactional Verification), 4 - Private Medium Confidence (no recent Validation and no Disconnect Transaction), 5 - Disconnect / Delisted Transaction Present
x	phone.cell.match	cell_match	3	1XX - Individual, 2XX - Household/Business (For detailed descriptions of specific codes, please contact your account manager.)
x	phone.cell.recordtype	cell_rtype	6	B - Business, P - Payphone, R - Residential, U - Unknown, BUS - Business, BUSRES - Business Residential, BUSGOV - Business Government, RES - Residential, C - Consumer, G - Government, S - Business/Residential
x	phone.cell.telco	cell_telco	50	Name of the cell phone service provider

Cell Phone Verify Service Fields

Default Output	PIX field name	Default field name	Length	Description
x	phone.cell.matchcode	cell_matcd	1	N = Append new phone, original had no phone, V = Verified original phone number, C = Changed - output phone number is different from original input phone

Name Append Service Fields

Default Output	PIX field name	Default field name	Length	Description
X	nameappend.person1. firstname		18	First name of appended name
X	nameappend.person1.middlename		18	Middle name of appended name
X	nameappend.person1.lastname		25	Last name of appended name

Deprecated field list – The following list of fields can still be used but will be phased out in a future release once they are no longer used in custom outputs

Default Output	PIX field name	Default field name	Length	Description
x	parsed.person1.name.firstname	nm_first	18	First name of appended name
x	parsed.person1.name.middlename	nm_middle	18	Middle name of appended name
x	parsed.person1.name.lastname	nm_last	25	Last name of appended name

Dual Name Append Service Fields

Default Output	PIX field name	Default field name	Length	Description
x	nameappend.person1.firstname	na1_first	18	First name of appended name 1
x	nameappend.person1.middlename	na1_middle	18	Middle name of appended name 1
x	nameappend.person1.lastname	na1_last	25	Last name of appended name 1
x	nameappend.person1.gender	na1_gender	1	Gender of appended name 1
x	nameappend.person2.firstname	na2_first	18	First name of appended name 2
x	nameappend.person2.middlename	na2_middle	18	Middle name of appended name 2
x	nameappend.person2.lastname	na2_last	25	Last name of appended name 2
x	nameappend.person2.gender	na2_gender	1	Gender of appended name 2

Appendix B: Default Output Fields

These are the columns that are output by default for each service processed.

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Residential Phone Append	Residential Phone TPS	Residential TPS	Phone Disconnect	Full Demographics Append	Reverse Phone Append	Gender Append	Name Parsing	Canadian Standardization	Canadian Change of Address	Deduplication	MoveDistance	Output Field Name	Length	PIX Field Mapping Expression	Also output for this specific service
x																				std_line1	40	standard.address.primary	
x																				std_line2	15	standard.address.secondary	
x																				std_city	28	standard.city	
x																				std_state	2	standard.state	
x																				std_zip	5	standard.zip	
x																				std_zip4	4	standard.zip4	
x																				std_dpbc	2	standard.dpbc	
x																				std_chkdgt	1	standard.dpbc.checkdigit	
x																				std_cart	4	standard.cart	
x																				std_lot	4	standard.lot	
x																				std_lotord	1	standard.lot.order	
x																				std_urb	28	standard.urbanization	
x																				std_fips	5	standard.fipscode	
x																				std_ews	1	standard.ews.match	
x																				std_z4lom	1	standard.cass.recordtype	
x																				std_lacsrt	2	standard.lacs.returncode	
x																				std_slrt	2	standard.suitelink.returncode	
x																				std_status	6	standard.errororstatuscode	
x																				dpv_status	1	standard.dpv.status	
x																				dpv_cmra	1	standard.dpv.cmra	
x																				dpv_nostat	1	standard.dpv.nostat	
x																				dpv_vacant	1	standard.dpv.vacant	
x																				dpv_ftnote	12	standard.dpv.footnote	
	x			x	x															coa_addsrc	1	coa.source	
	x			x	x												x			coa_match	1	coa.match	
	x			x	x												x			coa_movtyp	1	coa.movetype	
	x			x	x															coa_date	6	coa.effectivedate	
	x			x	x												x			coa_delcd	1	coa.deliverycode	
	x			x	x															coa_rtncd	2	coa.returncode	
	x			x	x															coa_line1	40	coa.address.primary	

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Residential Phone Append	Residential Phone TPS	Residential TPS	Phone Disconnect	Full Demographics Append	Reverse Phone Append	Gender Append	Name Parsing	Canadian Standardization	Canadian Change of Address	Deduplication	MoveDistance	Output Field Name	Length	PIX Field Mapping Expression	Also output for this specific service
	x			x	x															coa_line2	15	coa.address.secondary	
	x			x	x															coa_city	28	coa.city	
	x			x	x															coa_state	2	coa.state	
	x			x	x															coa_zip	5	coa.zip	
	x			x	x															coa_zip4	4	coa.zip4	
	x			x	x															coa_dpbc	2	coa.dpbc	
	x			x	x															coa_chkdgt	1	coa.dpbc.checkdigit	
	x			x	x															coa_cart	4	coa.cart	
	x			x	x															coa_lot	4	coa.lot	
	x			x	x															coa_lotord	1	coa.lot.order	
	x			x	x															coa_urb	28	coa.urbanization	
	x			x	x															coa_fips	5	coa.fipscode	
	x			x	x															coa_z4lom	1	coa.cass.recordtype	
	x			x	x															coa_action	2	coa.action	
	x			x	x															coa_conf	1	coa.confidence	
	x			x	x															coa_qname	40	coa.lookup	
					x															pp_confirm	1	coa.pcoaplus.confirm	
					x															pp_nixie	1	coa.pcoaplus.nixie	
					x															pp_namechg	1	coa.pcoaplus.namechange	
					x															pp_fname	50	coa.pcoaplus.firstname	
					x															pp_mi	50	coa.pcoaplus.middlename	
					x															pp_lname	50	coa.pcoaplus.lastname	
					x															pp_correct	1	coa.pcoaplus.correct	
																			x	mv_dist_mi	6	coa.distance.miles	
																			x	mv_dist_km	6	coa.distance.kilometers	
		x																		dsf_season	1	movereplace.dsf.seasonal	
		x																		dsf_vacant	1	movereplace.dpv.vacant	
		x																		dsf_tback	1	movereplace.dsf.throwback	
		x																		dsf_resbus	1	movereplace.dsf.recordtype	
		x																		dsf_dtype	1	movereplace.dsf.deliverytype	
		x																		dsf_drop	1	movereplace.dsf.drop	
		x																		dsf_dcount	3	movereplace.dsf.drop.count	
		x																		dsf_sequen	5	standard.dsf.walksequence	
		x																		dsf_score	1	standard.dsf.score	
		x																		dsf_stats	1	movereplace.dpv.nostat	

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Residential Phone Append	Residential Phone TPS	Residential TPS	Phone Disconnect	Full Demographics Append	Reverse Phone Append	Gender Append	Name Parsing	Canadian Standardization	Canadian Change of Address	Deduplication	MoveDistance	Output Field Name	Length	PIX Field Mapping Expression	Also output for this specific service
		x																		dsf_seqsrc	1	standard.dsf.walksequence.source	
		x																		dsf_edu	1	movereplace.dsf.educational	
			x																	geo_match	1	movereplace.geo.match	
			x																	geo_lat	10	movereplace.geo.latitude	
			x																	geo_long	11	movereplace.geo.longitude	
			x																	geo_block	10	movereplace.geo.block	
			x																	geo_msa	4	movereplace.geo.msa	
			x																	geo_cbsa	5	movereplace.geo.cbsa	
							x													p_apt	15	apartment.number	
							x													p_aptflag	2	apartment.flag	
																		x		dd_grpid	10	dedupe.groupid	
																		x		dd_grprank	1	dedupe.grouprank	
																		x		dd_grpcnt	4	dedupe.groupcount	
						x														std_dmamps	1	suppression.dmamps	
						x														std_prison	1	suppression.prison	
						x														std_deceas	1	suppression.deceased	
						x														deceas_dob	6	suppression.deceased.dateofbirth	
						x														deceas_dod	8	suppression.deceased.dateofdeath	
						x														std_nrshom	1	suppression.nursinghome	
								x				x								phone_code	1	phone.appendverify.matchcode	
								x				x								phone_conf	1	phone.appendverify.confidence	
								x				x								phone_dupe	1	phone.appendverify.duplicate	
								x				x								phone_tsrc	2	phone.tps.match.source	
								x				x								ftc_dnc	1	phone.tps.match.federal	
								x				x								phone_tz	1	phone.appendverify.timezone	
								x				x								phone_ac	3	phone.appendverify.areacode	
								x				x								phone_num	7	phone.appendverify.number	
								x	x	x		x								phone_tps	1	phone.tps.match	
									x	x										dnc_ftc	1	phone.tps.match.federal	
									x	x										dnc_state	1	phone.tps.match.state	
									x	x										dnc_wire	1	phone.tps.match.wireless	
											x									dis_type	1	phone.disconnect.type	
											x									dis_score	1	phone.disconnect.score	
											x									dis_flag	1	phone.disconnect.flag	
											x									dis_telco	30	phone.disconnect.telconame	

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Residential Phone Append	Residential Phone TPS	Residential TPS	Phone Disconnect	Full Demographics Append	Reverse Phone Append	Gender Append	Name Parsing	Canadian Standardization	Canadian Change of Address	Deduplication	MoveDistance	Output Field Name	Length	PIX Field Mapping Expression	Also output for this specific service
												x								d_ageexact	1	demo.person.age.exact	A-DEMO-AGE-EXACT
												x								d_ageest	1	demo.person.age.estimate	A-DEMO-AGE-ESTIMATED
												x								d_dob	6	demo.person.dateofbirth	A-DEMO-DOB
												x								d_homeown	1	demo.person.homeowner	A-DEMO-HOMEOWNER
												x								d_income	1	demo.person.income.estimated	A-DEMO-INCOME
												x								d_lor	1	demo.person.lengthofresidence	A-DEMO-LOR
												x								d_marital	1	demo.person.maritalstatus	A-DEMO-MARITAL
												x								d_mor	1	demo.person.mailorderresponder	A-DEMO-MAILORDER
												x								d_networth	1	demo.person.networth	A-DEMO-NETWORTH
												x								d_occtype	1	demo.person.occupationtype	A-DEMO-OCCUPATION
												x								d_prschild	1	demo.household.children	A-DEMO-PRES-CHILD
												x								d_numchild	1	demo.household.children.number	A-DEMO-NUMCHILD
												x								d_hscomp	1	demo.household.composition	A-DEMO-HOUSECOMP
												x								d_hmvalue	1	demo.property.homevalue	A-DEMO-HOMEVALUE
												x								d_mfdu	1	demo.property.mfdu	A-DEMO-MFDU
												x								d_unitsize	1	demo.property.unitsize	A-DEMO-UNITSIZE
												x								d_proptype	1	demo.property.type	A-DEMO-PROPTYPE
												x								d_edu	1	demo.median.education	A-DEMO-EDUCATION
												x								d_mdhmval	1	demo.median.homevalue	A-DEMO-MEDHOMEVAL
												x								d_medinc	1	demo.median.income	A-DEMO-MEDINCOME

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Residential Phone Append	Residential Phone TPS	Residential TPS	Phone Disconnect	Full Demographics Append	Reverse Phone Append	Gender Append	Name Parsing	Canadian Standardization	Canadian Change of Address	Deduplication	MoveDistance	Output Field Name	Length	PIX Field Mapping Expression	Also output for this specific service
												x								d_hispanic	1	demo.neighborhood.hispanic	A-DEMO-PERHISPANIC
													x							ra_prefix	30	reversephone.name.prefix	
													x							ra_fname	30	reversephone.name.firstname	
													x							ra_lname	30	reversephone.name.lastname	
													x							ra_suffix	3	reversephone.name.suffix	
													x							ra_company	30	reversephone.firm	
													x							biz_fname	10	reversephone.firm.firstname	
													x							biz_lname	20	reversephone.firm.lastname	
													x							ra_addr1	40	reversephone.address.primary	
													x							ra_addr2	40	reversephone.address.secondary	
													x							ra_city	25	reversephone.city	
													x							ra_state	2	reversephone.state	
													x							ra_zip	5	reversephone.zip	
													x							ra_zip4	4	reversephone.zip4	
													x							dnc_flag	1	reversephone.donotcall.federal	
													x							wir_flag	1	reversephone.donotcall.wireless	
														x						gen_code	1	parsed.gender.code	
														x						gen_score	1	parsed.gender.score	
															X					nm_prefix	10	parsed.person1.name.prefix	
															X					nm_first	18	parsed.person1.name.firstname	
															X					nm_middle	18	parsed.person1.name.middlename	
															X					nm_last	25	parsed.person1.name.lastname	
															X					nm_suffix	10	parsed.person1.name.suffix	
																x				ca_addr1	60	standard.ca.address.primary	
																x				ca_addr2	60	standard.ca.address.secondary	
																x				ca_prisec	60	standard.ca.address.primarysecondary	
																x				ca_city	28	standard.ca.city	
																x				ca_prov	2	standard.ca.province	
																x				ca_postcd	7	standard.ca.postalcode	
																x				ca_status	1	standard.ca.status	
																x				ca_qualcd	5	standard.ca.qualitycode	
																x				ca_addrtyp	2	standard.ca.address.type	
																x				ca_infocd	5	standard.ca.infocode	
																	x			coac_addr1	60	coa.ca.address.primary	

CASS	NCOA	DSF	Geocoding	PCOA	PCOA Plus	Suppression	Apt Append	Residential Phone Append	Residential Phone TPS	Residential TPS	Phone Disconnect	Full Demographics Append	Reverse Phone Append	Gender Append	Name Parsing	Canadian Standardization	Canadian Change of Address	Deduplication	MoveDistance	Output Field Name	Length	PIX Field Mapping Expression	Also output for this specific service
																	x			coac_addr2	60	coa.ca.address.secondary	
																	x			coac_prisc	60	coa.ca.address.primarysecondary	
																	x			coac_city	28	coa.ca.city	
																	x			coac_prov	2	coa.ca.province	
																	x			coac_post	7	coa.ca.postalcode	

Appendix C: FAST Expression Language (FXL)

The FAST Expression Language, also known as FXL, enables you to manipulate your original input data and the data resulting from processing services into the results you map to the columns of your output file(s).

FXL is very similar to the expression languages built into familiar software products like Excel and FoxBase/Dbase, so it is very easy to write.

FXL is also very forgiving; many conditions that might cause errors in other languages are simply ignored by FXL.

For example, the following expression is clearly faulty because it tries to evaluate a substring starting at position 9, but the source string "Hello" is only 5 characters long:

```
Sub("Hello", 9, 3)
```

Most languages would throw an exception in a case like this, but FXL simply returns an empty string.

Take a look at the language reference below to get a good idea of how to write FXL expressions.

If you need any help, please feel free to call your Account Representative at any time. We are always here to serve you.

FXL Reference

Arguments shown as *field* or *fieldN* may also be literal strings. Arguments shown as *expression* or *expressionN* must be expressions that return Boolean (true or false) values.

Expression	**Return Value**
field1 Contains field2 → bool	True if all of field2 is contained anywhere within field1.
field1 BeginsWith field2 → bool	True if field2 is contained at the very beginning of field1.
field1 EndsWith field2 → bool	True if field2 is contained at the very end of field1.
Empty(field) → bool	True if the field is either empty of any characters or includes only spaces.
Not(expression) → bool	True if the expression evaluates to False.
expression1 AND expression2 → bool	True if both expression1 and expression2 evaluate to True.
expression1 OR expression2 → bool	True if either expression1 or expression2 evaluate to True.

Expression	Return Value
Trim(field) → string	The contents of field trimmed of all leading and trailing spaces.
Sub(field, startingPosition, length) → string	The substring of field that is length characters long and starts at startingPosition (start of field is one).
Sub(field, startingPosition) → string	The substring of field that includes all characters from startingPosition thru the end of field.
Left(field, length) → string	The first length characters of field.
Right(field, length) → string	The last length characters of field.
Iif(expression, resultIfTrue, resultIfFalse) → string	Either resultIfTrue if expression evaluates to True; otherwise, resultIfFalse.
field1 & field2 → string	The concatenation of field1 trimmed, a single space character, and field2 trimmed.
field1 + field2 → string	The concatenation of field1 and field2.
field1 = field2 → bool	True if the fields are equal. Text comparisons are case-insensitive, so JOHN = john returns True.
field1 > field2 → bool	True if field1 is greater than field2.
field1 >= field2 → bool	True if field1 is greater than or equal to field2.
field1 < field2 → bool	True if field1 is less than field2.
field1 <= field2 → bool	True if field1 is less than or equal to field2.
Find(field, stringToSearchFor) → int	One-based index of first occurrence of stringToSearchFor; -1 if not found
Length(field) → int	Length of value stored in field.
Distance(lat1, long1, lat2, long2) → string	Distance between (lat1, long1) and (lat2, long2) in miles
Distance(lat1, long1, lat2, long2, type) → string	Distance between (lat1, long1) and (lat2, long2) in miles where the type parameter is 'mi' or kilometers where type is 'km'

One-Based Indexes

All indexes used in FXL are one-based. So the first character of the FirstName field would be returned by this FXL expression:

```
Sub(FirstName, 1, 1)
```

Because many scripting languages use zero-based indexes, FXL internally corrects attempts to use zero as the index into a string. So this faulty FXL expression:

```
Sub(FirstName, 0, 1)
```

will be internally corrected to be:

```
Sub(FirstName, 1, 1)
```

Auto-Truncation

If an FXL expression attempts to map a value into a field that is specified to be shorter than the length of that value, FXL automatically truncates the value to fit the field.

Auto-Trimming

FXL does *not* automatically trim field values, except for the expression `field1 & field2 → string`.

Case Sensitivity

FXL treats all comparisons in a case-insensitive manner.

So these two FXL expressions are functionally identical, and will therefore produce the exact same results:

```
iif(standard.state = "GA", "C", "U")
iif(standard.state = "ga", "C", "U")
```

Both function names and column names are case-insensitive, so the following two expressions are exactly equivalent:

```
Sub(Trim(LastName), 1, 9)
sub(trim(lastname), 1, 9)
```

Reserved Words

Columns may not be named any of the following in any form of capitalization because they are reserved words used by the expression syntax:

```
Contains
BeginsWith
EndsWith
And
Or
True
False
Distance
MoveDistance
```

Literals

FAST supports three kinds of literals: plain strings of text, plain integers (whole numbers), and Booleans (True or False).

Neither integer literals nor Boolean literals require quotation marks.

String literals must be surrounded with either single- or double-quotation marks.

A literal single-quote or double-quote character is escaped depending upon how the string that contains it is qualified (officially treated as a string).

For example, if a string is qualified using double-quote characters like this:

```
"I am a string literal"
```

then placing a single-quote character inside that string literal would not have to be escaped:

```
"I'm a string literal"
```

because single-quote characters are not used for anything else with respect to that string literal.

But if a string is qualified using single-quote characters like this:

```
'I am a string literal'
```

then placing a single-quote character inside that string literal would have to be escaped by doubling the literal single-quote character:

```
'I''m a string literal'
```

because single-quote characters are used both within the string literal and as the qualifier character for the entire string literal, escaping the literal single-quote character is the only way a machine can distinguish it from a qualifier character.

Here are a few more examples.

If a literal must contain a single quotation mark as printable text, any of these examples will work:

```
"I'm a string literal"
'I''m a string literal'
"'British' style"
'''British'' style'
```

If a literal must contain a double quotation mark as printable text, any of these examples will work:

```
'I"m a string literal'
"I""m a string literal"
'"American" style'
"""American"" style"
```

You can substitute literals for fields, like this:

```
field1 Contains "Corp"
field1 Contains 'Corp'
```

You can also substitute expressions for fields, like this:

```
field1 Contains Sub(field2, 5, 16)
Sub(Iif(Not(Empty(field1 & field2)), field1 & field2, field3), 3, 11)
```

The Sub() Function

The Sub() function will always return a string, even if the parameters are incorrect. For example, if the expression Sub(field1, 5, 12) is evaluated for a particular row where the value for field1 for is only 3 characters long, it will return an empty string.

The Distance() Function

The Distance() function expects one latitude and longitude pair passed to it to calculate the distance between a fixed point and each address in the file. The 5th parameter, type, is optional and if omitted the function returns the distance in miles. Type can be either 'mi' for miles or 'km' for kilometers.

1) Use the function to output the distance for all individuals' addresses in the file to a fixed location in miles (either of these will work).
   dist_mi(6) = DISTANCE(movereplace.geo.latitude,movereplace.geo.longitude,34.02297,-84.088381)
   dist_mi(6) = DISTANCE(movereplace.geo.latitude,movereplace.geo.longitude,34.02297,-84.088381,'mi')

2) Use the function to output the distance for all individuals' addresses in the file to a fixed location in kilometers.
   dist_km(6) = DISTANCE(movereplace.geo.latitude,movereplace.geo.longitude,34.02297,-84.088381,'km')

3) Use the function to create different output files based on the change of address distance.
   Record Filter=Distance(movereplace.geo.latitude,movereplace.geo.longitude,34.02297,-84.088381) < 5

4) Use the function in combination with other functions in the FAST expression language (FXL).
   eval(15) = iif(distance(movereplace.geo.latitude,movereplace.geo.longitude,34.02297,-84.088381) < 5, 'Less than 5', 'Not less than 5')

The MoveDistance() Function and service

The MoveDistance() function is used to calculate the distance between a provided address in the file and the address an individual moved to if a NCOA match is found. An optional parameter Type can be supplied to provide the distance in miles, the default, or kilometers. Type can be either 'mi' for miles or 'km' for kilometers.

Another option for outputting the move distance is to use the coa.distance.kilometers or coa.distance.miles PIX fields in your custom output. These fields are output by default if no custom output specification file is provided or if the FAST.#DefaultOutputFields# option is supplied in a custom output specification file.

Here are a few examples if the function or PIX fields are used in a custom output specification file:

kilometers(6) = coa.distance.kilometers
miles(6) = coa.distance.miles
calc_mi(6) = MOVEDISTANCE()
calc_km(6) = movedistance('km')

Precedence of Evaluation

Parentheses may be used to control precedence of evaluation. For example, if Age contains 25 and Weight contains 185:

```
Factor(10) = iif(Age < 7 AND Weight > 70 OR Age > 20 AND Weight < 200, 20, 0.5)
```

results in 0.5, but

```
Factor(10) = iif((Age < 7 AND Weight > 70) OR (Age > 20 AND Weight < 200), 20, 0.5)
```

results in 20.

Auto-Conversion During Comparisons

Comparators for equality, greater than, greater than or equal to, less than, and less than or equal to first attempt to convert the values to numbers before comparing them.

If the values cannot be converted to numbers then they are compared as strings (text).