

## MFL Transformation Enhancement to Support Use of Delimiter Escape Character

This enhancement adds the ability to specify an escape character that the parser will use to skip delimiter string that appears inside delimited string data.

The current method of skipping delimiter string that appears inside the string data is by specifying a data delimiter. This and the use of escape character are now combined into one feature called Delim Match Rule where the user can select which method to use. . This feature is available when you select Delimiter Termination option for String data type.

MFL document version 2.02 is required in order to see this feature. If you are editing an existing MFL document, you need to edit it first in a text editor and change the MFLVersion to 2.02. New MFL created will have version 2.02 by default. The patched FormatBuilder uses the NonXML engine in the Test window. If you want to use the old WLXT engine, you need to start FormatBuilder as fb -usewlxt

The screenshot shows the 'Attributes' dialog box with the 'Delim Match Rule' tab selected. On the left, the 'Delimiter' radio button is selected. The dialog contains four tabs: 'Delimiter', 'Trim', 'Delim Match Rule', and 'Truncate'. Below the tabs, there is a dropdown menu labeled 'Skip Delim in data using:' which is currently empty.

To specify a Delim Match Rule, click on the Delim Match Rule tab and select the appropriate method. If you select Data Delimiter, you need to specify the data delimiter character. If you select Escape Character, you need to specify the escape character. Select the none option if you do not want to use a Delim Match Rule.

For Escape Character method, you also have the option to specify a reference field that will contain the escape character at runtime. The value you specify in the escape character field will be used as the default value in case the reference field is optional and is not present in the data at runtime. The field delimiter, as well as all parent structure shared delimiters will be escaped even if the field is not the last field in the structure.

The screenshot shows the 'Attributes' dialog box with the 'Delim Match Rule' tab selected. The 'Skip Delim in data using:' dropdown is set to 'Data Delimiter'. Below it, the 'Data Delim Char' field contains a double quote character (").

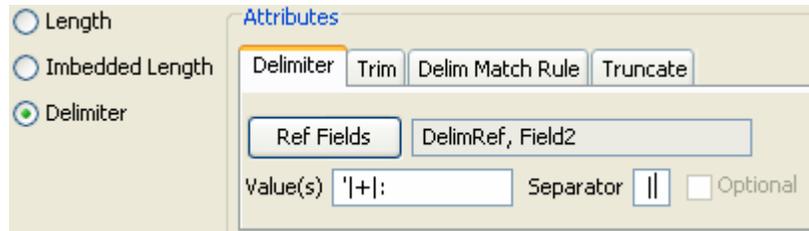
Data Delimiter method selected.

The screenshot shows the 'Attributes' dialog box with the 'Delim Match Rule' tab selected. The 'Skip Delim in data using:' dropdown is set to 'Escape Character'. Below it, the 'Ref Field' dropdown is set to 'EscChar' and the 'Esc Char' field contains a question mark (?).

Escape Character method selected.

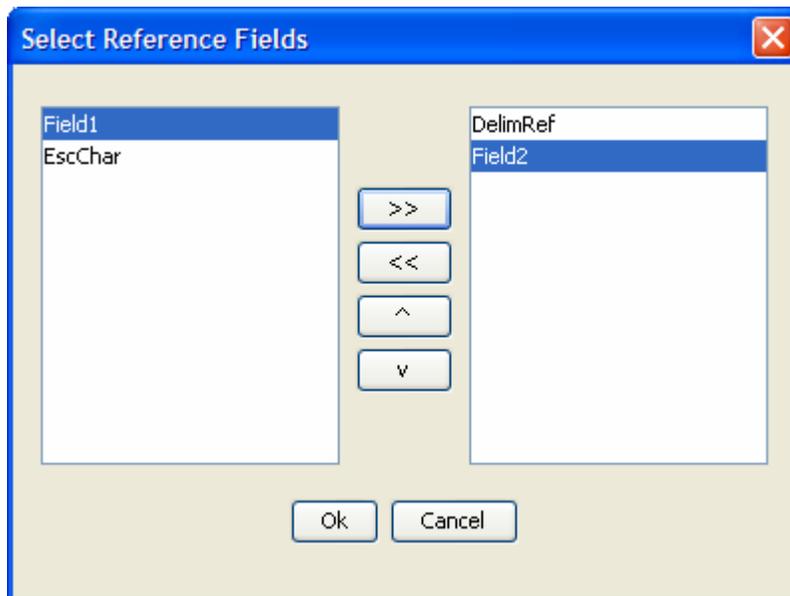
## Specifying Delimiter and Delimiter Reference

This patch also includes some changes on how delimiters are specified. The previous Delimiter and Delimiter Field Termination options are now combined into one option called Delimiter. You can specify one or more delimiter reference fields, as well as one or more delimiter string.



The Delimiter Termination Option Panel

Reference fields are optional, but always take precedence over static delimiter values if they are present. Click on the Ref Fields button to select fields to be used as delimiter reference field(s).



The Delimiter Reference Field Selection Dialog

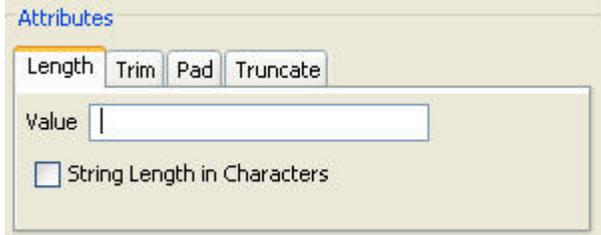
Select fields from the list on the left and click on the >> button to add it to the list on the right. To remove a field, select it on the list on the right and click the << button. The order of the selected field is relevant such that during XML to Binary conversion, the delimiter used is the first reference field containing a value. To modify the field order, select a field from the list on the right and click on the ^ or v button to move it up or down the list. Click Ok to accept the selected fields. When you click Ok, the selected fields will be displayed in the text field next to the Ref Fields button.

You can specify one or more static delimiter values in the Value(s) field. If you specify more than one, you need to specify the separator character used in the Separator field.

The Optional checkbox is enabled if the current field is an optional field. For optional fields, the delimiter is optional by default. That is, during XML to binary conversion, if the field is missing in the XML document, both the field data and delimiter will not be present in the resulting binary. If Optional is unchecked for the delimiter of an optional field, then the delimiter will always be present in the binary data during XML to binary conversion, regardless if the field element is present in the XML or not.

## Specifying String Length in Characters

A new option has been added to the Format Builder GUI tool that allows you to use the specified length of fixed length strings as number of characters instead of number of bytes. By default, the length specified is in bytes.



Check "String Length in Characters" to use the specified length as number of characters. This option is useful for strings using multi-byte encoding, where a character can have one or more bytes and would not be possible to specify a fixed length in bytes.