

## ***1Spatial Internal Feature Format (IFF) Reader Parameters***

### **Reader Parameters**

#### Apply Origin Offset

Choose Yes to apply the origin offset found in Type 2 Map Descriptor record to all features. The default is No.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

### ***Additional Military Layers (AML) Reader Parameters***

AML reader parameters are the same as S-57 reader parameters. Please see the [reader parameters for S-57](#).

## **Adobe 3D PDF Writer Parameters**

### **Document Options**

#### Display Navigation UI

Determines whether Adobe Acrobat software will display the left-hand side Node navigation UI by default when opening the output PDF file.

#### Background Color

Specifies the background color of the 3D annotation when the output file is viewed with Adobe Acrobat.

The format of the value is a comma delimited list of red, green, and blue components of the desired background color. Each rgb (red green blue) value should be a real number between 0.0 and 1.0, inclusive.

The default value for this directive is 0.2,0.2,0.2, which is a dark grey color.

Valid values are <0.0 ... 1.0>,<0.0 ... 1.0>,<0.0 ... 1.0>

### **Feature Handling**

#### Reorient 2D Features for Visibility

Controls whether features with no Z coordinates will have their normals adjusted such that the feature is visible immediately after opening the PDF file.

If the box is checked, all 2D features will be visible from the default camera position after opening the PDF file in Adobe Acrobat software. If the box is unchecked, the geometries will not be adjusted and will be written as-is.

## **Adobe Geospatial PDF Writer Parameters**

### **Page Size**

#### Page Size

Specifies the size of the output page of the PDF document. The default value for this parameter is Letter. Preset page sizes for common paper sizes can be selected or the page size can be specified in typographical points in the format <width> <height>.

#### Location of Map on Page

This parameter determines where to place the map on the page, and how large the map should be on the page. The format for the parameter is four integers separated by spaces describing the lower left corner and the upper right corner of the viewport/rectangle, specified in typographical points. The lower left corner of the page has coordinate (0,0) and the top right corner has coordinate (<width>,<height>) where these two values are the page size specified by the parameter Page Size. If the aspect ratios of the page viewport and the world viewport differ, then the lesser scaling factor will be chosen: data inside the world viewport will not be clipped and data outside the world viewport might become visible. If a value for the directive is not specified, then the page viewport rectangle will be a centered rectangle with a width and length that is 90% of the page width and length. The page viewport coordinates must be between (0,0) and (page width,page height).

Values: <lowerLeftX> <lowerLeftY> <upperRightX> <upperRightY>

#### Map Extents

Specifies a rectangular region of space, in world coordinates, that will be mapped to the page viewport. Geometry outside the world viewport will be clipped when drawn on the page. The format for this option is four floating point numbers separated by spaces describing the lower left corner and the upper right corner of the rectangle. If a value is not specified, then the world viewport rectangle will be the bounding box of the entire dataset.

Values: <lowerLeftX> <lowerLeftY> <upperRightX> <upperRightY>

### **Map Parameters**

#### Default Fill Opacity

Specifies the opacity value of the fill color of area geometries. The boundaries of area geometries are not affected by this setting. A value of 0 corresponds to complete transparency and a value of 1 is complete opaqueness.

#### Default Point Radius

The default radius in pixels for point geometry.

#### Default Line Width

The default width in pixels for line geometry and boundaries of area geometry.

#### Navigation Panel to Display

Determines the panel that is visible immediately after opening the output PDF file in Adobe Acrobat software. If None is specified, then no panel will be initially displayed. If Layers is specified, then the Layer panel will be visible after opening the file. If Pages is specified, then the Page Thumbnails panel will be visible.

#### Randomize Feature Type Color

Specifies whether features without the fme\_color attribute set will be assigned a random color based on its feature

type. If this box is not checked, then features without their `fme_color` attributes set will be assigned the color black.

## **Text Parameters**

### **Text in Rich Text Format**

Specifies whether the text string of text features is in the rich text format. If the box is not checked, then the text string is written as-is to the page. If the box is checked, then the text string will be processed for style directives.

### **TrueType Font Directories**

Specifies the directories that the writer will search in to find the TrueType fonts used in the workspace. The workspace directory of the translation is always searched.

## **Attribution**

### **Write Attributes**

Specifies whether attribution data will be written. Not writing attribution data will decrease the file size of the output file and may improve viewing performance.

## **Compression**

### **Compress Streams**

Determines whether streams in the output file will be compressed.

## **Compatibility**

### **PDF 1.4 Compatible**

Specifies whether the output file will be PDF 1.4 compatible. If you leave this box unchecked, then the output file can only be opened by applications that are compatible with PDF 1.5 and above.

## **Adobe Illustrator EPS Writer Parameters**

### **Size**

#### Width

Specifies the maximum EPS units (1 unit = 1/72 inch) for the width of the output map.

#### Height

Specifies the maximum EPS units (1 unit = 1/72 inch) for the height of the output map.

#### Buffer Ratio

The percentage of buffer room between the border of the output EPS map within the specified bounding box.

#### Line Width

The value in pixels of the line width you wish to use by default. The default value is set to 1. The value entered for this parameter must be at least 0 (which is the thinnest printable line width).

#### Text Width

This width is similar to line width, except it is applied to text features. The default value is set to 1. The value entered for this parameter must be at least 0, which is the thinnest printable line width.

### **Line Join Type**

Specifies the default corner types that should be drawn onto paths.

#### Square

Specifies a sharp corner.

#### Round

Specifies a rounded corner.

#### Butt

Specifies a butt-end corner.

### **Line Cap Type**

Specifies the default cap that will be used on line segments.

#### Square

Specifies square-end caps.

#### Round

Specifies rounded-end caps.

#### Butt

Specifies butt-end caps.

### **Map Parameters**

#### Maintain Map Aspect Ratio

Select Yes to indicate that the original map aspect will be maintained to fit within the destination-defined bounding box. This means that the entire destination bounding box defined may not be used. Select No to cause the original map to be stretched onto the defined destination bounding box.

### Force CMYK

By choosing Yes, then all color usage output to the IEPS file is in CMYK. By default, this value is No, meaning that a mix of RGB and CMYK color schemes may be in the output IEPS file. However, despite forcing CMYK color output, some IEPS viewers may not support the setcmykcolor call in their library. In these cases, the actual output of colors is done using a function we define in PostScript which interfaces exactly like the setcmykcolor call, but uses setrgbcmyk underneath. This will depend on the IEPS viewer you are using

## ***Aeronautical Information Exchange Model (AIXM) Reader Parameters***

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Aircom ENTERPRISE Map Data/ASSET Data Reader Parameters***

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***APT Reader Parameters***

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ARC Digitized Raster Graphics (ADRG) Reader Parameters***

### **Dataset Parameters**

#### Group by GEN Filename

**No (default):** The only feature type this reader will use is the reader type name, which in this case is ADRG.

**Yes:** The feature type of each dataset is the filename (without the path or the extension) of the dataset.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ARC Standard Raster Product (ASRP) Reader Parameters***

### **Dataset Parameters**

#### Group by GEN Filename

**No (default):** The only feature type this reader will use is the reader type name, which in this case is ASRP.

**Yes:** The feature type of each dataset is the filename (without the path or the extension) of the dataset.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ASPRS Lidar Data Exchange Format (LAS) Reader Parameters***

### **Dataset Parameters**

#### Group By Filename

Indicates whether you want the dataset parameters grouped by filename or not.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ASPRS Lidar Data Exchange Format (LAS) Writer Parameters***

### ASPRS LAS Version

Select the version number of ASPRS LAS from the drop-down list.

## ***Australian Asset Design and As Constructed (ADAC) Reader Parameters***

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Autodesk 3DS Reader Parameters**

### **Coordinate System**

#### Move to World Coordinate System

Possible values are 'Yes' and 'No' with the default value being 'No'.

If the value is 'Yes', the companion '.prj' and '.wld' files (having the same name as the '.3ds' file) will be read in order to acquire the coordinate system and the data necessary in order to convert points to the world coordinate system. Note that in the absence of a companion '.wld' file with the same name as the '.3ds' file, a file named 'global.wld' will be looked for in the same directory. Similarly for the companion '.prj' file, only in that case, we will look for a file named 'global.prj'.

### **Materials**

#### Texture Directories

This parameter specifies the directories that the reader will search in order to find the texture image files referenced by the 3ds files being read.

Values: <multiple directories>

Default value: The directory of the .3ds file being read

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Autodesk 3DS Writer Parameters**

The 3D model has a hierarchical structure of Nodes, which are elements of the model. For each node, there is a corresponding mesh, which contains the geometry of the object. Feature types become Nodes. Features become Meshes that may have geometries and attributes.

Note: The 3DS Writer does not support feature type fanout.

### **Coordinate System**

#### **Move To Local Coordinate System**

If the value is set to PRJ\_ONLY, a companion '.prj' file containing the coordinate system and having the same name as the '.3ds' file will be written in the same directory as the '.3ds' file.

If the value is Yes, in addition to writing the '.prj' file as in the 'PRJ\_ONLY' option, a companion '.wld' file with the same name as the '.3ds' file will be written in the same directory as the '.3ds' file and the coordinates of all the points in the written features will be normalized to the interval [-0.5, 0.5] on the largest side of their XY-bounding box. The other dimensions will be scaled proportionally. This can be used to improve precision of the written coordinates.

### **Materials**

#### **Two-Sided Meshes**

If the feature being read does not contain a valid 3ds material reference, the appearance on the individual face in the mesh will be set to FME's default appearance. Any raster referenced as a texture in the 3ds file will be read by FME, as long as the source format is supported by FME.

If the feature being written does not contain a valid appearance reference, the default material will be assigned to the corresponding faces. If the feature contains a valid appearance reference, it will be written as faces referenced to a corresponding 3ds material.

A two-sided surface with matching appearance references will be written out as two-sided faces sharing one material in 3ds. Due to a limitation within 3ds, a two-sided surface with different appearance references will be written out as two one-sided faces with different materials.

If the incoming feature contains deprecated attributes such as material name (3ds\_material), color(3ds\_ambient\_color, 3ds\_diffuse\_color, or 3ds\_specular\_color), or texture image (3ds\_texture\_image) information, a material with these properties will be created and assigned to the mesh corresponding to the feature.

## **Autodesk AutoCAD Civil 3D Reader Parameters**

### **Civil 3D Schema Mode**

This option specifies the types of AutoCAD drawing entities which will be included in schema generation and data retrieval.

#### Civil 3D Entities Only

If you select this option, the reader will use FME Feature Types to represent types of Civil 3D specific entities such as pipes.

#### Civil 3D and CAD Entities

If you select this option, in addition to FME Feature Types to representing types of Civil 3D specific entities, the AutoCAD Civil 3D Reader will use additional FME Feature Types to represent layers. All of the CAD entities in the AutoCAD drawing will be read according to the layer on which they are located. Although Civil 3D specific entities also belong to layers, they will only be read according to their object types.

### **Blocks**

#### Expand Blocks Into Entities

Check the Expand Blocks Into Entities box if you want to explode blocks and return the entities that form the components of the block as separate features. This is generally left unchecked when performing AutoCAD-to-AutoCAD translations.

When the reader resolves blocks, it outputs a feature for each of the AutoCAD entities that are part of the block definition. The original insert is not output. This results in the full graphical representation of the block transferred through FME, but the exact insertion point of the block is lost.

Each block member feature is given the attribute *autocad\_block\_number* which is set to the same value for each block so that the features comprising each block may be combined in subsequent processing. Arbitrary deep block nesting is permitted, however, the *autocad\_block\_number* attribute is only updated for each block at the outermost level. By default all block members will be on the same layer as that of the original block.

#### Use Block Header Layer for Components

Unchecking the Use Block Header Layer for Components box will cause the block members to appear on their respective layers.

If block contains "Attribute" then each instance of "Attribute" in the block entity will be returned as "Text" entity along with a non-spatial feature containing information about that "Attribute" definition and its value for that block.

If the exact insertion point of the block is desired, then block resolution should be turned off and the insert entities for each block should be translated into point features in the output system.

#### Store Insert Location on Components

Specifies if the reader should add the insert point location as attributes to the block component entities when resolving (or exploding) inserts entities. This is generally set to No when performing AutoCAD-to-AutoCAD translations.

When the reader resolves blocks, it outputs a feature for each of the AutoCAD entities that are part of the block definition. The original insert is not output, but this directive allows the insert location to still be represented. This results in each block member feature having the following attributes: `autocad_block_insert_[xyz]`.

## Entity Options

### Resolve Entity Color

Determines whether to resolve the entity's color, or keep it as "ByLayer". When checked (which is the default), the `autocad_color` attribute will contain the actual color by value (an integer between 0 and 255 inclusive) therefore preserving the original attributes.

For example, if you have an entity on a "rivers" layer, with its color set to "ByLayer", and the layer color set to "blue":

- If you check Resolve Entity Color, then the "autocad\_color" attribute will be set to "blue" (its equivalent integer value).
- If you uncheck Resolve Entity Color, then the "autocad\_color" attribute will be set to "ByLayer" (an integer value of 256) and the components will all be assigned the same layer color.

Note: This option is generally unchecked when performing AutoCAD-to-AutoCAD translations.

### Read Visible Attributes as Text Entities

Specifies whether the reader should return visible attributes as separate text features or whether they should be returned as attributes of an insert feature. When this option is checked, then each visible attribute is returned as a single text feature.

Note: This option is generally checked when performing AutoCAD-to-AutoCAD translations.

### Explode MText Entities

Specifies whether the reader will explode the mtext entities into separate text entities. When exploding, the resulting text features represent fragments of text with the same mtext properties such as style and location. When not exploding, the mtext entity will be read as a single text feature.

Note: This is generally unchecked when performing AutoCAD-to-AutoCAD translations.

### Read Polylines as 2.5D

Determines whether polylines should have their elevation attribute treated as a Z coordinate (applies to light-weight polylines and 2D polylines).

Note: This option should not be set when performing AutoCAD-to-AutoCAD translations as the elevations converted to Z coordinates when read in will not be converted back to elevation attributes when written out.

### Preserve Complex Hatches and Mpolygons

Specifies whether or not to read hatches in a way that preserves their complex properties. If Preserve Complex Hatches is not checked, then the loops of each hatch entity will be converted to areas and aggregated together, and polyline bulges will be stroked. If Preserve Complex Hatches is checked, then the loops will be aggregated together as polygons, ordered such that any enclosing loop will be aggregates before any enclosed loop. Attributes will be added to store polyline bulge information.

Note: This option is generally checked when performing AutoCAD-to-AutoCAD translations.

## Read Groups

Determines whether or not AutoCAD groups will be read. By default, FME will not read groups.

## Paper Space

### Read Paper Space

Instructs FME to also read the entities from paper space. By default, FME only reads the entities from model space.

## User Coordinate System

### Ignore UCS

Instructs FME to ignore the user-defined coordinate system of the file being read. By default, FME applies the UCS when reading the coordinate data.

Note: This option is generally checked only when performing AutoCAD-to-AutoCAD translations.

## Apply World File

### Apply World File

Use this parameter when you have an ESRI World file (\*.wld) that you want FME to use when determining the coordinates for features in your dataset. When this box is checked, FME will search the directory of the dataset for a file with the same name as your dataset but with a .wld extension. If it cannot find a file with that name, it will then look for the file "esri\_cad.wld" within the dataset directory. If either of those files exists, then FME will use the information in the files to translate the coordinates of the features in the dataset to their new geospatial coordinates. If the files cannot be found, then the translation will continue, using the coordinate information found in the dataset, without performing any additional transformation.

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Autodesk AutoCAD DWF Reader Parameters**

### **Security**

#### Password (optional)

DWF files support an optional password for additional security. When specified, the file cannot be opened without the password.

### **Paper Size**

#### Width

Specifies the maximum horizontal size in millimeters (mm) for the sheets read from the input DWF file.

#### Height

Specifies the maximum vertical size in millimeters (mm) for the sheets read from the input DWF file.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Autodesk AutoCAD DWF Writer Parameters**

### **Security**

#### Password

DWF files support an optional password for additional security. When specified, the file cannot be opened without the password.

### **Version**

#### Format

The format of the AutoCAD DWF file to be produced. Values currently supported are Compressed Binary, Uncompressed Binary, and ASCII. The default is Compressed Binary.

#### Version

The version of the AutoCAD DWF file to be produced. Values currently supported are 4.2, 5.5, and 6.0. The value corresponds with the release number of the AutoCAD DWF file that is produced. If Version is not specified, then default of 5.5 will be used.

### **Resolution**

DWF file resolution can be determined at translation time in the form of the X Size and Y sizes, specified in pixels.

#### X Size

Specifies the horizontal width of the output DWF file in pixels.

#### Y Size

Specifies the vertical height of the output DWF file in pixels.

### **Miscellaneous Options**

#### Optimize Colormap

When selected, prevents unused colors in the color map from being stored in the DWF file.

#### Export Invisible Layers

When selected, stores invisible layers in the DWF file and the usual visible layers.

#### Force Initial View to Extents

When selected, sets the initial viewport of the DWF file to the entire extents instead of the last actively seen viewport.

#### Use Inked Area

When selected, calculates a tight bounding area around the graphic elements of a drawing.

#### Skip Layer Info

When selected, prevents additional layer information from being stored in the DWF file.

#### Skip Named Views

When selected, prevents named views from being stored in the DWF file.

## **Autodesk AutoCAD DWG/DXF Reader Parameters**

### **Group Entities By**

Specifies the overall structure of the schema and data for DWG file reading. Group entities by layer name or geometry, or build AutoCAD schema by scanning extended entity data.

#### Layer Name

The schema will be generated using layers in the source dataset as FME feature types.

#### Geometry

The schema will be generated using all the possible AutoCAD geometry types as FME feature types. This list is set by the reader capability and is not limited to geometries which occur in the given source dataset.

#### Attribute Schema

The schema will be generated using both the layers and entities in the source dataset. The layers will be used to create FME feature types as in the Group by Layer Name selection; however, the attributes of all the entities belonging to a layer will be accumulated and also added to the FME feature type for that layer.

### **Blocks**

#### Expand Blocks Into Entities

Check this box if you want to explode blocks and return the entities that form the components of the block as separate features. This is generally left unchecked when performing AutoCAD-to-AutoCAD translations.

When the reader resolves blocks, it outputs a feature for each of the AutoCAD entities that are part of the block definition. The original insert is not output. This results in the full graphical representation of the block transferred through FME, but the exact insertion point of the block is lost.

Each block member feature is given the attribute *autocad\_block\_number* which is set to the same value for each block so that the features comprising each block may be combined in subsequent processing. Arbitrary deep block nesting is permitted, however, the *autocad\_block\_number* attribute is only updated for each block at the outermost level. By default all block members will be on the same layer as that of the original block.

#### Use Block Header Layer for Components

Unchecking the Use Block Header Layer for Components box will cause the block members to appear on their respective layers.

If block contains "Attribute" then each instance of "Attribute" in the block entity will be returned as "Text" entity along with a non-spatial feature containing information about that "Attribute" definition and its value for that block.

If the exact insertion point of the block is desired, then block resolution should be turned off and the insert entities for each block should be translated into point features in the output system.

#### Store Insert Location on Components

If you check Store Insert Location on Components, the reader adds the insert point locations as attributes to the block component entities when resolving (or exploding) inserts entities. This option is generally not checked for AutoCAD-to-AutoCAD translations.

When the reader resolves blocks, it outputs a feature for each of the AutoCAD entities that are part of the block definition. The original insert is not output, but this directive allows the insert location to still be represented.

This results in each block member feature having the following attributes: `autocad_block_insert_[xyz]`.

## Entity Options

### Resolve Entity Color

Determines whether to resolve the entity's color, or keep it as "ByLayer". When checked (which is the default), the `autocad_color` attribute will contain the actual color by value (an integer between 0 and 255 inclusive) therefore preserving the original attributes.

For example, if you have an entity on a "rivers" layer, with its color set to "ByLayer", and the layer color set to "blue":

- If you check Resolve Entity Color, then the "autocad\_color" attribute will be set to "blue" (its equivalent integer value).
- If you uncheck Resolve Entity Color, then the "autocad\_color" attribute will be set to "ByLayer" (an integer value of 256) and the components will all be assigned the same layer color.

Note: This option is generally unchecked when performing AutoCAD-to-AutoCAD translations.

### Read Visible Attributes as Text Entities

Specifies whether the reader should return visible attributes as separate text features or whether they should be returned as attributes of an insert feature. When this option is checked, then each visible attribute is returned as a single text feature.

Note: This option is generally checked when performing AutoCAD-to-AutoCAD translations.

### Explode MText Entities

Specifies whether the reader will explode the mtext entities into separate text entities. When exploding, the resulting text features represent fragments of text with the same mtext properties such as style and location. When not exploding, the mtext entity will be read as a single text feature.

Note: This is generally unchecked when performing AutoCAD-to-AutoCAD translations.

### Read Polylines as 2.5D

Determines whether polylines should have their elevation attribute treated as a Z coordinate (applies to light-weight polylines and 2D polylines).

Note: This option should not be set when performing AutoCAD-to-AutoCAD translations as the elevations converted to Z coordinates when read in will not be converted back to elevation attributes when written out.

### Preserve Complex Hatches and MPolygons

Specifies whether or not to read hatches and MPolygons in a way that preserves their complex properties. If Preserve Complex Hatches and MPolygons is not checked, then the loops of each hatch entity will be converted to areas and aggregated together, and polyline bulges will be stroked. If Preserve Complex Hatches and MPolygons is checked, then the loops will be aggregated together as polygons, ordered such that any enclosing loop will be aggregates before any enclosed loop. Attributes will be added to store polyline bulge information.

Note: This option is generally checked when performing AutoCAD-to-AutoCAD translations.

## Read Groups

Determines whether or not AutoCAD groups will be read. By default, FME will not read groups.

## Paper Space

### Read Paper Space

Instructs FME to also read the entities from paper space. By default, FME only reads the entities from model space.

## User Coordinate System

### Ignore UCS

Instructs FME to ignore the user-defined coordinate system of the file being read. By default, FME applies the UCS when reading the coordinate data.

Note: This option is generally checked only when performing AutoCAD-to-AutoCAD translations.

## Apply World File

### Apply World File

Use this parameter when you have an ESRI World file (\*.wld) that you want FME to use when determining the coordinates for features in your dataset. When this box is checked, FME will search the directory of the dataset for a file with the same name as your dataset but with a .wld extension. If it cannot find a file with that name, it will then look for the file "esri\_cad.wld" within the dataset directory. If either of those files exists, then FME will use the information in the files to translate the coordinates of the features in the dataset to their new geospatial coordinates. If the files cannot be found, then the translation will continue, using the coordinate information found in the dataset, without performing any additional transformation.

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## Layer Options

### Store Layer Properties on Features

If you select this option, the AutoCAD Reader will add additional attributes describing the layer properties for the layer of each feature. These include `autocad_layer_linetype`, `autocad_layer_color`, and `autocad_layer_lineweight`.

## **Autodesk AutoCAD DWG/DXF Writer Parameters**

### **Attribute Output**

Specify how the attribute data is to be stored.

#### Extended Entity Data

If selected, stores attributes as extended entity data. For more information on Extended Entity Data, see the Feature Representation section of the AutoCAD DWG/DXF chapter in the *FME Readers and Writers* manual. (From the Workbench Help menu, select FME Readers and Writers Reference.)

#### Inserts

Specifies whether the writer should use the attribute definitions that are found within blocks when placing inserts. If not selected, then all the attributes on a feature that is passed to the writer are written as insert attributes. If selected, then only the attributes defined within the block being placed are stored as insert attributes.

#### Ignore

Ignore attribute information and output only the geometry.

Note: Storing attributes greatly increases the size of the output AutoCAD file.

### **File Contents**

#### AutoCAD Version

Specify the AutoCAD release the output file will be compatible with.

#### Template File

Optionally, enter a template filename or click the Browse button and select a file. A template file is an AutoCAD file that defines layers, line styles, blocks and shape definitions which are referenced during translation.

Note: Template files are also known as prototype files.

## **Autodesk AutoCAD Map 3D Object Data Reader Parameters**

### **Object Data Reading Mode**

Specifies the overall structure of the schema and data for object data reading.

#### Group by Entity

If Group by Entity is specified, then the schema will be generated using layers in the source dataset as FME feature types, and one data feature will be read for each entity. This mode can be thought of as 'spatial' mode since each data feature read in this mode uniquely represents an entity with all its associated object data. This is the recommended default reading mode for translating from the AutoCAD Map 3D Object Data Reader to another FME format.

If a certain entity contains object data in  $n$  different object data tables, then only one feature is created, which stores the entity information and has all the attributes of the  $n$  associated object data tables. If an entity does not have object data associated with it, it simply has no object data attributes on it.

#### Raw Relational

If Raw Relational is specified, then the schema will be generated using a combination of both layers and object data tables as FME feature types, as they are arranged in the source dataset. The data features read according to the layer-based feature types will be for each entity in the source dataset, and the data features read according to the object data table feature types will be for the records per entity in each object data table. This mode can be thought of as 'relational' since the each data feature read in this mode represents either the object data attributes or that the entities of the source dataset, and the two types are linked or related together by an entity handle.

If a certain entity contains object data in  $n$  different object data tables, then one entity feature is created with an FME feature type based on the entity's layer. At the same time,  $n$  non-geometric object data features are created, each having the object data attributes of one the  $n$  object data tables associated with that entity. These object data features will have an FME feature type based on the object data table that they represent. They will have an autocad\_entity attribute with a value of autocad\_od, and an autocad\_entity\_handle attribute that can be used to reference the feature that stores the the associated entity information.

#### Group by Object Data

If Group by Object Data is specified then the schema will be generated using object data tables in the source dataset as FME feature types, and data features each containing entity information will be read for each object data table and entity combination. This mode can be thought of as 'object data' since each data feature read in this mode uniquely defines the attributes for an object data table and entity combination.

If a certain entity contains object data in  $n$  different object data tables, then  $n$  different features are created, one for each object data table. Each feature will store a copy of the entity information and have object data from only one object data table. Data features created from the same entity will have identical values for the autocad\_od\_entity\_key attribute. If a feature does not have any object data associated with it, the feature is given the feature type FME\_NO\_OBJECT\_DATA. This is the recommended reading mode for translating from the AutoCAD Map Object Data Reader to the AutoCAD Map Object Data Writer.

### **Prepend Table Name**

#### Prepend Table Name

Check Prepend Table Name to prefix attribute names with the object data table from which they came. This applies

to both the attributes on FME feature types which correspond to columns in object data tables, and the attributes on FME data features which correspond to fields of object data records in object data tables.

### Separator Character

Enter a Separator Character (any character) that will be used to separate the object data table name from the object data information when Prepend Table Name is checked.

## Expand Blocks into Entities

### Expand Blocks into Entities

Check the Expand Into Entities box if you want to explode blocks and return the entities that form the components of the block as separate features. This is generally left unchecked when performing AutoCAD-to-AutoCAD translations.

When the reader resolves blocks, it outputs a feature for each of the AutoCAD entities that are part of the block definition. The original insert is not output. This results in the full graphical representation of the block transferred through FME, but the exact insertion point of the block is lost.

Each block member feature is given the attribute *autocad\_block\_number* which is set to the same value for each block so that the features comprising each block may be combined in subsequent processing. Arbitrary deep block nesting is permitted, however, the *autocad\_block\_number* attribute is only updated for each block at the outermost level. By default all block members will be on the same layer as that of the original block.

### Use Block Header Layer for Components

Unchecking the Use Block Header Layer for Components box will cause the block members to appear on their respective layers.

If block contains "Attribute" then each instance of "Attribute" in the block entity will be returned as "Text" entity along with a non-spatial feature containing information about that "Attribute" definition and its value for that block.

If the exact insertion point of the block is desired, then block resolution should be turned off and the insert entities for each block should be translated into point features in the output system.

## Entity Options

### Explode MText Entities

Specifies whether the reader will explode the mtext entities into separate text entities. When exploding, the resulting text features represent fragments of text with the same mtext properties such as style and location. When not exploding, the mtext entity will be read as a single text feature.

Note: This is generally unchecked when performing AutoCAD-to-AutoCAD translations.

### Read Polylines as 2.5D

Determines whether polylines should have their elevation attribute treated as a Z coordinate (applies to light-weight polylines and 2D polylines).

Note: This option should not be set when performing AutoCAD-to-AutoCAD translations as the elevations converted to Z coordinates when read in will not be converted back to elevation attributes when written out.

## Paper Space

### Read Paper Space

Instructs FME to also read the entities from paper space. By default, FME only reads the entities from model space.

## User Coordinate System

### Ignore UCS

Instructs FME to ignore the user-defined coordinate system of the file being read. By default, FME applies the UCS when reading the coordinate data.

Note: This option is generally checked only when performing AutoCAD-to-AutoCAD translations.

## Layer Options

### Ignore Hidden Layers

Specifies whether the reader will ignore all features on the hidden layers. If checked, then features located on the hidden layers are not read from the input dataset. If unchecked, then the features are read from the hidden layer.

If this option is specified at the time of workspace or mapping file generation, and the schema mode is by layer, then no schema information from hidden layers will be used to generate the workspace or mapping file.

Note: This option is generally unchecked when performing AutoCAD-to-AutoCAD translations.

## Apply World File

### Apply World File

Use this parameter when you have an ESRI World file (\*.wld) that you want FME to use when determining the coordinates for features in your dataset. When this box is checked, FME will search the directory of the dataset for a file with the same name as your dataset but with a .wld extension. If it cannot find a file with that name, it will then look for the file "esri\_cad.wld" within the dataset directory. If either of those files exists, then FME will use the information in the files to translate the coordinates of the features in the dataset to their new geospatial coordinates. If the files cannot be found, then the translation will continue, using the coordinate information found in the dataset, without performing any additional transformation.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Autodesk AutoCAD Map 3D Object Data Writer Parameters***

### **File Contents**

#### AutoCAD Version

Specify the AutoCAD release the output file will be compatible with.

#### Template File

Optionally, enter a template filename or click the Browse button and select a file.

A template file is an AutoCAD file that defines layers, line styles, blocks and shape definitions which are referenced during translation.

**Note:** Template files are also known as prototype files.

## Autodesk AutoCAD RealDWG DWG/DXF Reader Parameters

### Group Entities By

Specifies the overall structure of the schema and data for DWG file reading. Group entities by layer name or geometry, or build AutoCAD schema by scanning extended entity data.

#### Layer Name

The schema will be generated using layers in the source dataset as FME feature types.

#### Geometry

The schema will be generated using all the possible AutoCAD geometry types as FME feature types. This list is set by the reader capability and is not limited to geometries which occur in the given source dataset.

#### Attribute Schema

The schema will be generated using both the layers and entities in the source dataset. The layers will be used to create FME feature types as in the Group by Layer Name selection; however, the attributes of all the entities belonging to a layer will be accumulated and also added to the FME feature type for that layer.

### Blocks

Check the **Expand Blocks Into Entities** box if you want to explode blocks and return the entities that form the components of the block as separate features. This is generally left unchecked when performing AutoCAD-to-AutoCAD translations.

When the reader resolves blocks, it outputs a feature for each of the AutoCAD entities that are part of the block definition. The original insert is not output. This results in the full graphical representation of the block transferred through FME, but the exact insertion point of the block is lost.

Each block member feature is given the attribute *autocad\_block\_number* which is set to the same value for each block so that the features comprising each block may be combined in subsequent processing. Arbitrary deep block nesting is permitted, however, the *autocad\_block\_number* attribute is only updated for each block at the outermost level. By default all block members will be on the same layer as that of the original block. Unchecking the **Use Block Header Layer for Components** box will cause the block members to appear on their respective layers.

If block contains "Attribute" then each instance of "Attribute" in the block entity will be returned as "Text" entity along with a non-spatial feature containing information about that "Attribute" definition and its value for that block.

If the exact insertion point of the block is desired, then block resolution should be turned off and the insert entities for each block should be translated into point features in the output system.

### Entity Color

**Resolve Entity Color:** Determines whether to resolve the entity's color, or keep it as "ByLayer". When checked (which is the default), the *autocad\_color* attribute will contain the actual color by value (an integer between 0 and 255 inclusive) therefore preserving the original attributes.

For example, if you have an entity on a "rivers" layer, with its color set to "ByLayer", and the layer color set to "blue":

- If you check **Resolve Entity Color**, then the "autocad\_color" attribute will be set to "blue" (its equivalent integer value).

- If you uncheck **Resolve Entity Color**, then the "autocad\_color" attribute will be set to "ByLayer" (an integer value of 256) and the components will all be assigned the same layer color.

This option is generally unchecked when performing AutoCAD-to-AutoCAD translations.

### Visible Attributes

Specifies whether the reader should return visible attributes as separate text features or whether they should be returned as attributes of an insert feature. When this option is checked, then each visible attribute is returned as a single text feature.

This option is generally checked when performing AutoCAD-to-AutoCAD translations.

### Layers

**Ignore hidden layers** specifies whether the reader will ignore all features on the hidden layers. If checked, then features located on the hidden layers are not read from the input dataset. If unchecked, then the features are read from the hidden layer. If this option is specified at the time of workspace or mapping file generation, and the schema mode is by layer, then no schema information from hidden layers will be used to generate the workspace or mapping file.

This option is generally unchecked when performing AutoCAD-to-AutoCAD translations.

### Polylines

**Read polylines as 2.5D:** Determines whether polylines should have their elevation attribute treated as a Z coordinate (applies to light-weight polylines and 2D polylines).

This option should not be set when performing AutoCAD-to-AutoCAD translations as the elevations converted to Z coordinates when read in will not be converted back to elevation attributes when written out.

### Bulge Handling

**Store Bulge Info (optional):** When specified, the AutoCAD DWG Reader doesn't vectorize the Polyline and LWP Line Bulges, but rather it stores the coefficients in the attribute autocad\_bulge.

This box is generally checked only when performing AutoCAD-to-AutoCAD translations.

**Split into Arcs:** When specified to Split into Arcs, the AutoCAD Reader doesn't vectorize the splines but rather returns one feature for each arc that has a bulge in it as an autocad\_arc feature.

### Hatch Handling

Specifies whether or not to read hatches in a way that preserves their complex properties. If **Preserve Complex Hatches** is not checked, then the loops of each hatch entity will be converted to areas and aggregated together, and polyline bulges will be stroked. If Preserve Complex Hatches is checked, then the loops will be aggregated together as polygons, ordered such that any enclosing loop will be aggregates before any enclosed loop. Attributes will be added to store polyline bulge information.

This option is generally checked when performing AutoCAD-to-AutoCAD translations.

### Paper Space

Instructs FME to also read the entities from paper space. By default, FME only reads the entities from model space.

## Groups

Determines whether or not AutoCAD groups will be read. By default, FME will not read groups.

## User Coordinate System

**Ignore UCS (optional):** Instructs FME to ignore the user-defined coordinate system of the file being read. By default, FME applies the UCS when reading the coordinate data.

Note: This option is generally checked only when performing AutoCAD-to-AutoCAD translations.

## **Autodesk AutoCAD RealDWG DWG/DXF Writer Parameters**

### **Attribute Output**

Specify how the attribute data is to be stored.

**Extended Entity Data:** If selected, stores attributes as extended entity data. For more information on Extended Entity Data, see the Feature Representation section of the AutoCAD DWG/DXF chapter in the *FME Readers and Writers* manual. (From the Workbench Help menu, select FME Readers and Writers Reference.)

**Inserts:** Specifies whether the writer should use the attribute definitions that are found within blocks when placing inserts. If not selected, then all the attributes on a feature that is passed to the writer are written as insert attributes. If selected, then only the attributes defined within the block being placed are stored as insert attributes.

**Ignore:** Ignore attribute information and output only the geometry.

Note that storing attributes greatly increases the size of the output AutoCAD file.

### **Release**

Specify the AutoCAD release the output file will be compatible with.

### **Template File**

Optionally, enter a template filename or click the Browse button and select a file. A template file is an AutoCAD file that defines layers, line styles, blocks and shape definitions which are referenced during translation.

Note: Template files are also known as prototype files.

## **Autodesk MapGuide Enterprise SDF Reader Parameters**

### **Dataset**

#### Dataset

The path of the SDF3 file to be read.

### **Constraints**

#### Remove Schema Qualifier

Checking this box indicates that the feature type name in FME should not contain the schema name prefix before the table name. If the box is not checked, the table name will contain the schema prefix separated by a period.

#### Table List

Click the Browse button to select feature classes for export.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Autodesk MapGuide Enterprise SDF Writer Parameters**

### **Tolerance**

#### X/Y Tolerance

Specifies the X/Y-axis tolerance values for the output SDF3 file. Valid values are floating-point numbers. The tolerances are in distance units that depend on the coordinate system. The default value is 0.0

#### Z Tolerance

Specifies the Z-axis tolerance values for the output SDF3 file. Valid values are floating-point numbers. The tolerances are in distance units that depend on the coordinate system. The default value is 0.0

### **Schema**

#### Default Schema Name

Defines the default schema name.

### **Write Settings**

#### Overwrite File

Specifies whether the output file should be overwritten if it exists. If this box is not checked, then the SDF3 writer will append the new features to the dataset.

## **Autodesk MapGuide SDF Reader Parameters**

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Autodesk MapGuide SDF Writer Parameters**

Note: To use the SDF reader and writer, you will need to install the Autodesk MapGuide Component Toolkit (SDFComTk) using the installer supplied by Autodesk. Note that you must have version 5.0 or newer of the toolkit, and you may have to reboot your computer after installation.

### Existing File Handling

Specifies how the SDF writer deals with output files that already exist. If this flag is set to yes, the writer appends to existing files. If it is set to no, the writer empties existing files before writing to them.

### Coordinate Precision

Specifies the precision of the coordinates in the output SDF files.

### Key Index File

Controls whether or not the SDF writer creates a key index file. If selected, a key index file is created.

## **Autodesk MapGuide SDL Reader Parameters**

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Autodesk VISION GINA Reader Parameters**

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Bathymetric Attributed Grid (BAG) Reader Parameters***

### **Dataset Parameters**

#### Group by Filename

When this box is checked, the feature type of each dataset is the filename (without the path or the extension) of the dataset. When this box is not checked, the only feature type this reader will use is the reader type name, which in this case is BAG.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***B.C. MOEP Reader Parameters***

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## **BC MoF Electronic Submission Framework - ESF Reader Parameters**

### **Schema Parameters**

#### Validate Dataset

If checked, validates schemas against the website schema. Errors are reported if the schema does not match.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **BC MoF Electronic Submission Framework - ESF Writer Parameters**

### Submission Framework

A submission framework must be selected in the settings box when adding a destination dataset. Once this selection has been set, it will be displayed in the destination parameters in Workbench.

BC Ministry of Forests (MoF) Electronic Submission Framework (ESF) is a set of XML/GML formats that allow clients to submit data electronically to BC Ministry of Forests and Range and Ministry of Agriculture and Lands. Four ESF formats are supported:

- **Electronic Submission Framework - As Built Roads**
- **Electronic Submission Framework - Forest Stewardship Plan**
- **Electronic Submission Framework - Forest Tenure Application:** This is a GML format specifying Forest Tenures (FTA) submissions for the British Columbia Ministry of Forests Electronic Submission Framework.
- **Electronic Submission Framework - Results:** This is a GML format specifying silviculture (Results) submissions for the British Columbia Ministry of Forests Electronic Submission Framework.

Note: This cannot be changed after it has been set.

## ***Bentley MicroStation Design (V7) Reader Parameters***

Note: For more detailed information on these settings, open the Formats Gallery, select Microstation Design, and click the Details button. This will open the reference documentation for this format.

### **Group Elements By**

Specifies the overall structure of the schema and data for DGN file reading.

#### Level

The schema will be generated using level numbers in the source dataset as FME feature types.

#### Level Names

The schema will be generated using level names in the source dataset as FME feature types.

#### Geometry

The schema will be generated using all the possible Design geometry types as FME feature types. This list is set by the reader capability and is not limited to geometries which occur in the given source dataset.

#### Schema – Level Names

The schema will be generated using both the names and elements in the source dataset. The level names will be used to create FME feature types as in the Group by Level Names selection; however, the attributes of all the elements belonging to a level will be accumulated and also added to the FME feature type for that level.

#### Schema – Level Numbers

The schema will be generated using both the level numbers and elements in the source dataset. The level numbers will be used to create FME feature types as in the Group by Level selection; however, the attributes of all the elements belonging to a level will be accumulated and also added to the FME feature type for that level.

### **Element Expansion**

#### Expand Named Cells

Check this box if you want the cells expanded into separate features.

#### Preserve Named Cell Insert Points

When checked, outputs the insertion point of the named cell.

#### Expand Unnamed (Group Hole) Cells

When checked, unnamed cells are output, but the cell header itself is not output. In this case, donut polygons will not be formed from member shape elements. All member elements will retain their original colors. If it is not checked, then the cell is not exploded into its components and only the cell header is output. Donut polygons may be formed if multiple intersecting polygons existed.

#### Preserve Unnamed Cell Insert Points

When checked, outputs the insertion point of the unnamed cell.

#### Split Multi Text

When selected, splits the multi text into text nodes and outputs the member text elements as individual text

elements.

### Output Tags as Text

Check to display tags. Elements in a design file may have user-defined attributes attached to them. Such attributes are called tags, and these may be read (but not written) by FME. In addition, to supply a value for a user-defined attribute, tags may also be displayed as text in the original design file.

When reading a design file, FME first scans for all the tag data elements and tag set definition elements. Then as it reads each graphical element from the design file, it uses the element association ID to reconnect the data and attribute names with the graphical element. All the tag data values are then added to the feature returned into FME.

### Drop Dimensions

Controls the way the dimensions are imported. When it is checked (default), the dimensions are exploded into its pieces; when it is not checked, it is imported as an aggregate. When dimensions are imported as aggregates, the arcs are stroked and text features are output as list attributes only. For example, if you're performing a DGN-to-DGN translation with the option unchecked, the text features will be lost.

### Drop Complex Chains/Shapes

Check this box if you want each component of a complex chain to be returned as its own feature and no feature will be returned for the complex chain as a whole. Otherwise all elements of the complex chain will be merged into a single linear feature, any arcs in the complex chain will be converted into linestrings and any linkages on the component elements themselves will be lost.

## Read Reference Files

### Read Reference Files

Reads all the external reference files attached to the source dataset. If the reference file has nested references, then they will also be imported.

### Read Reference up to First Level

Reads only the first level of the external reference files attached to the source dataset.

## Linkage Extraction

Linkage Extraction boxes allows you to extract MSLinks and/or FRAMME attribute linkage values from the Source Design File. Only the first three linkage values will be extracted.

### MSLinks

These linkage values can be used to join the graphical data held in the design file to the MSLINK field in the related database table. The entity number that is extracted is used to determine the relevant table that holds the attributes (the database contains a table called MSCATALOG which maps entity numbers to table names).

### FRAMME

The UFID is extracted together with the basename of the design file. These two items form a compound key that can be joined to the related FRAMME database.

## Coordinate Units

Specify the coordinate units of the features.

### Master

The UORs read from the Design file are converted into master units, according to the conversion factor read from the Design file header, before being stored in an FME feature.

### Sub

The UORs read from the Design file are converted into subunits, according to the conversion factor read from the Design file header, before being stored in an FME feature.

### UOR

The UORs read from the Design file are stored directly in an FME feature with no conversion.

## Override Global Origin

### Override Global Origin

You can overwrite the global origin values by setting the values of X and Y. Setting these values overwrites the global origin as read from the .dgn file.

### X

The global origin of X measured in UORs.

### Y

The global origin of Y measured in UORs.

## World File Transformation

### Apply World File (.wld)

Use this setting when you have an ESRI World file (\*.wld) that you want FME to use when determining the coordinates for features in your dataset. When this parameter is checked, FME will search the directory of the dataset for a file with the same name as your dataset but with a .wld extension. If it cannot find a file with that name, it will then look for the file "esri\_cad.wld" within the dataset directory. If either of those files exists, then FME will use the information in the files to translate the coordinates. If the files cannot be found, then the translation will continue, using the coordinate information found in the dataset, without performing any additional transformation.

## ***Bentley MicroStation Design (V7) Writer Parameters***

### **Output Units**

Specifies how FME feature coordinates will be interpreted and converted into UORs.

### **Two Point Line Output**

Specify how you want to store the two-point line features.

### **Allow Area Fills**

Controls whether or not fill linkages will be written out for ellipses, shapes, and solids.

### **Seed File**

#### **Seed File**

Set the location of the seed file, which controls whether or not the output design file is two-dimensional or three-dimensional, and sets the global origin unit information.

### **Compute Seed File Parameters**

#### **Compute Seed File Parameters**

Check this box if you want the FME to scan the input data and automatically compute and use optimal parameters for the input data. You may want to use this setting if the seed file you selected does not provide a large enough real-world area for the output data

#### **Override Global Origin**

You can overwrite the global origin values by setting the values of X and Y. Setting these values overwrites the global origin as read from the .dgn file.

#### **X**

The global origin of X measured in UORs.

#### **Y**

The global origin of Y measured in UORs.

#### **Override Units**

You can overwrite the unit values by checking this box and entering values for sub units, master units, UOR per master unit, and sub units per master unit. This is supported for v7 only; the values are ignored for v8.

### **Cell Library**

#### **Cell Library File**

Optional: You can select a design file cell library, which contains definitions of symbols that can be placed in the output design file.

**Note:** If a translation to design file fails because of insufficient ground range, FME detects this and will automatically supply these settings for the next translation.

## ***Bentley MicroStation Design (V8) Reader Parameters***

Note: For more detailed information on these settings, open the Formats Gallery, select Microstation Design, and click the Details button. This will open the reference documentation for this format.

### **Group Elements By**

Specifies the overall structure of the schema and data for DGN file reading.

#### Level

The schema will be generated using level numbers in the source dataset as FME feature types.

#### Level Names

The schema will be generated using level names in the source dataset as FME feature types.

#### Geometry

The schema will be generated using all the possible Design geometry types as FME feature types. This list is set by the reader capability and is not limited to geometries which occur in the given source dataset.

#### Schema – Level Names

The schema will be generated using both the names and elements in the source dataset. The level names will be used to create FME feature types as in the Group by Level Names selection; however, the attributes of all the elements belonging to a level will be accumulated and also added to the FME feature type for that level.

#### Schema – Level Numbers

The schema will be generated using both the level numbers and elements in the source dataset. The level numbers will be used to create FME feature types as in the Group by Level selection; however, the attributes of all the elements belonging to a level will be accumulated and also added to the FME feature type for that level.

### **Element Expansion**

#### Expand Named Cells

Check this box if you want the cells expanded into separate features.

#### Preserve Named Cell Insert Points

When checked, outputs the insertion point of the named cell.

#### Expand Unnamed (Group Hole) Cells

When checked, unnamed cells are output, but the cell header itself is not output. In this case, donut polygons will not be formed from member shape elements. All member elements will retain their original colors. If it is not checked, then the cell is not exploded into its components and only the cell header is output. Donut polygons may be formed if multiple intersecting polygons existed.

#### Preserve Unnamed Cell Insert Points

When checked, outputs the insertion point of the unnamed cell.

#### Split Multi Text

When selected, splits the multi text into text nodes and outputs the member text elements as individual text

elements.

### Output Tags as Text

Check to display tags. Elements in a design file may have user-defined attributes attached to them. Such attributes are called tags, and these may be read (but not written) by FME. In addition, to supply a value for a user-defined attribute, tags may also be displayed as text in the original design file.

When reading a design file, FME first scans for all the tag data elements and tag set definition elements. Then as it reads each graphical element from the design file, it uses the element association ID to reconnect the data and attribute names with the graphical element. All the tag data values are then added to the feature returned into FME.

### Drop Dimensions

Controls the way the dimensions are imported. When it is checked (default), the dimensions are exploded into its pieces; when it is not checked, it is imported as an aggregate. When dimensions are imported as aggregates, the arcs are stroked and text features are output as list attributes only. For example, if you're performing a DGN-to-DGN translation with the option unchecked, the text features will be lost.

### Drop Complex Chains/Shapes

Check this box if you want each component of a complex chain to be returned as its own feature and no feature will be returned for the complex chain as a whole. Otherwise all elements of the complex chain will be merged into a single linear feature, any arcs in the complex chain will be converted into linestrings and any linkages on the component elements themselves will be lost.

## Read Reference Files

### Read Reference Files

Reads all the external reference files attached to the source dataset. If the reference file has nested references, then they will also be imported.

### Use Reference's Parent Model

Uses the model of the parent file of the xref file. Applicable to V8 only (since models are supported in V8 but not in V7).

### Read Reference up to First Level

Reads only the first level of the external reference files attached to the source dataset.

## Linkage Extraction

Linkage Extraction boxes allows you to extract MSLinks and/or FRAMME attribute linkage values from the Source Design File. Only the first three linkage values will be extracted.

### MSLinks

These linkage values can be used to join the graphical data held in the design file to the MSLINK field in the related database table. The entity number that is extracted is used to determine the relevant table that holds the attributes (the database contains a table called MSCATALOG which maps entity numbers to table names).

### FRAMME

The UFID is extracted together with the basename of the design file. These two items form a compound key that

can be joined to the related FRAMME database.

## Coordinate Units

Specify the coordinate units of the features.

### Master

The UORs read from the Design file are converted into master units, according to the conversion factor read from the Design file header, before being stored in an FME feature.

### Sub

The UORs read from the Design file are converted into subunits, according to the conversion factor read from the Design file header, before being stored in an FME feature.

### UOR

The UORs read from the Design file are stored directly in an FME feature with no conversion.

## Override Global Origin

### Override Global Origin

You can overwrite the global origin values by setting the values of X and Y. Setting these values overwrites the global origin as read from the .dgn file.

### X

The global origin of X measured in UORs.

### Y

The global origin of Y measured in UORs.

## World File Transformation

### Apply World File (.wld)

Use this setting when you have an ESRI World file (\*.wld) that you want FME to use when determining the coordinates for features in your dataset. When this parameter is checked, FME will search the directory of the dataset for a file with the same name as your dataset but with a .wld extension. If it cannot find a file with that name, it will then look for the file "esri\_cad.wld" within the dataset directory. If either of those files exists, then FME will use the information in the files to translate the coordinates. If the files cannot be found, then the translation will continue, using the coordinate information found in the dataset, without performing any additional transformation.

## ***Bentley MicroStation Design (V8) Writer Parameters***

### **Output Units**

Specify the coordinate units of the features.

### **Two Point Line Output**

Specify how you want to store the two-point line features.

### **Allow Area Fills**

Controls whether or not fill linkages will be written out for ellipses, shapes, and solids.

### **Write Attribute as Tags**

Controls whether or not tags should be written for the elements that have necessary tag information attached to them as attributes.

### **Seed File**

#### **Seed File**

Set the location of the seed file, which controls whether or not the output design file is two-dimensional or three-dimensional, and sets the global origin unit information.

### **Compute Seed File Parameters**

#### **Compute Seed File Parameters**

Check this box if you want the FME to scan the input data and automatically compute and use optimal parameters for the input data. You may want to use this setting if the seed file you selected does not provide a large enough real-world area for the output data

#### **Override Global Origin**

You can overwrite the global origin values by setting the values of X and Y. Setting these values overwrites the global origin as read from the .dgn file.

#### **X**

The global origin of X measured in UORs.

#### **Y**

The global origin of Y measured in UORs.

#### **Override Units**

You can overwrite the unit values by checking this box and entering values for sub units, master units, UOR per master unit, and sub units per master unit. This is supported for v7 only; the values are ignored for v8.

### **Cell Library**

#### **Cell Library File**

Optional: You can select a design file cell library, which contains definitions of symbols that can be placed in the output design file.

Note: If a translation to Design file fails because of insufficient ground range, FME detects this and will automatically supply these settings for the next translation.

## **Bentley MicroStation GeoGraphics Reader Parameters**

### **Database Connection**

#### Database Type

Select ODBC, Access MDB or Oracle.

#### Access MDB File

Select the Access database file.

#### ODBC Datasource

Enter the ODBC datasource that points to your MGE database. Depending on your database, you may also have to enter a username and password.

#### Oracle Service Name

Enter the name of the Oracle service.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Table List

Click the Browse button to select tables for export. You may only select this after you've completely specified the database connection.

After you click the Browse button, a search window appears while the system compiles a table list from the database. Once the table list appears, you can select one or more tables, and then click the OK button to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

### **General Table Names**

#### Feature

Identifies the name of the feature table. Use this parameter only if you have a feature table with a name other than *feature*.

#### Category

Identifies the name of the feature table. Use this parameter only if you have a category table with a name other than *category*.

### **Expand Cells**

Determines how you want the cells to be expanded into separate features.

### **Coordinate Units**

Specify the coordinate units of the features.

#### Master

The UORs read from the file will be converted into master units, according to a conversion factor before being

stored in an FME feature.

### Sub

The UORs read from the file will be converted into subunits according to a conversion factor before being stored in an FME feature.

### UOR

The UORs read from the file will be stored directly in an FME feature, with no conversion.

## Complex Strings

### Drop Complex Chains/Shapes

Check this box if you want each component of a complex chain to be returned as its own feature and no feature will be returned for the complex chain as a whole. Otherwise all elements of the complex chain will be merged into a single linear feature, any arcs in the complex chain will be converted into linestrings and any linkages on the component elements themselves will be lost.

### Propagate Member Linkages

Check this box if you want the linkages attached to the first component of the complex chain to be returned on the FME feature, supplementing any existing linkages. Otherwise any linkages on the component elements themselves will be lost and only those linkages attached to the complex chain itself will be returned.

## Text

### Split Multi Text

When selected, splits the multi text.

**Tip:** If you have installed ODBC drivers (which normally happens when you install Microsoft Access or another database), you can set up ODBC datasources using the ODBC option in your Windows Control Panel.

### **Format Notes**

This format is not available with FME Base Edition.

## **Bentley MicroStation GeoGraphics Writer Parameters**

### **Database Connection**

#### Database Type

Select ODBC, Access MDB or Oracle.

#### Access MDB Version

Sets the version of the output Microsoft Access file. Access file versions 97 and 2000 are the supported types. By default, an Access 2000 file is created.

#### ODBC Data Source

Enter the ODBC datasource that points to your MGE database. Depending on your database, you may also have to enter a username and password.

#### Transaction Interval

The number of features that are to be in a single transaction before the FME performs a commit operation when writing to the database.

#### Immediate Writes

Specifies if the database is written immediately when needed (yes) or not (no).

### **General Table Names**

#### Feature

Specifies the name of the feature table to be written. This defaults to the name *feature*.

#### Category

Specifies the name of the category table to be written. This defaults to the name *category*.

### **Design File Parameters**

#### Output units

Choose the coordinate units.

#### Two Point Line Output

Specify how you want to store the two-point line features.

#### Allow Area Fills

Controls whether or not fill linkages will be written out for ellipses, shapes, and solids.

#### Compute Optimal Parameters

Check this box if you want to automatically adjust the origin and scaling of the seed file to provide an optimum set of parameters for the input data.

#### Seed File

Set the location of the seed file, which controls whether or not the output design file is two-dimensional or three-dimensional, and set the global origin unit information.

## Cell Library File

The file name of IGDS cell library, which contains the definitions of cells which may later be output.

**Tip:** If you have installed ODBC drivers (which normally happens when you install Microsoft Access or another database), you can set up ODBC datasources using the ODBC option in your Windows Control Panel.

### ***Format Notes***

This format is not available with FME Base Edition.

## **Canadian Council on Geomatics Interchange Format (CCOGIF) Reader Parameters**

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Canadian Digital Elevation Data (CDED) Reader Parameters**

### **Dataset Parameters**

#### Group by Filename

**No (default):** The only feature type this reader will use is the reader type name, which in this case is CDED.

**Yes:** The feature type of each dataset is the filename (without the path or the extension) of the dataset.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Canadian Digital Elevation Data (CDED) Writer Parameters***

### **CDED Version**

The product version to use. The following versions are supported:

**CDED**

Canadian Digital Elevation Data (CTI)

**CDED-1**

Canadian Digital Elevation Data, Level 1 (GeoBase)

## **Caris NTX Reader Parameters**

### **Mask Handling**

Portions of NTX linear features may be masked.

#### Ignore Mask Changes

By choosing to ignore mask changes, features will be merged regardless of the mask flag settings.

#### Break on Mask Changes

By choosing to break on mask changes, linear features will be split into separate features at each vertex where the mask setting changes.

### **NTX Name Handling**

Each character in an NTX annotation feature may have its own rotation and position.

#### Single Feature for each Name

If you select a single feature for each name, the characters are kept together and an average rotation is computed.

#### Separate Feature for each Character

If you select a separate feature for each character, then each character keeps its original rotation and the output dataset will more closely resemble the original NTX file.

### **Group Entities By**

Group NTX entities by any of the NTX attributes listed.

### **Aggregates**

#### Soundings

Specifies whether consecutive sounding features should be merged into aggregate features. If the box is checked, consecutive sounding features will be merged into aggregate features. If this box is unchecked, each sounding feature will be treated as an individual feature.

#### Dashed Lines

Determines whether dashed lines will have their geometry represented as a single linestring or as an aggregate of 2-point lines - each line being one of the dashes. If this box is checked, it will form aggregate geometries on dashed line features. If this box is unchecked, it will set the geometry to be a single line for dashed line features.

Those wishing to read NTX files for cartographic reasons may prefer to read dashed lines as aggregates. Those wishing to read the lines most efficiently may prefer to read dashed lines as a single linestring.

### **Format Notes**

This format is not available with FME Base Edition.

## **Caris NTX Writer Parameters**

### **Override Units and Scale**

#### Override Units and Scale

Check this box to override the default settings.

#### X/Y Resolution

This setting determines the file's X and Y disk unit resolution based on ground units.

For example, if the ground units are meters and the value of X/Y Resolution is 0.001, then the disk unit resolution is millimeters. This setting overrides any resolution settings if the input file is also NTX.

#### Z Resolution

This setting determines the file's Z disk resolution based on ground units. It is similar to the X/Y Resolution parameter. This setting overrides any resolution settings if the input file is also NTX.

#### Scale 1

Determines the file's scale. For example, if the scale is 1:50000, then this keyword should have the value 50000.0. This parameter overrides any scale settings if the input file is also NTX.

### **Binary Format**

Indicates whether the output NTX file should be in the UNIX (Big Endian) format, or in the PC (Little Endian) format. As the default, FME will produce an NTX file in the PC format.

### **Bounding Box**

#### Calculate Bounding Box

Indicates whether the bounding box values are calculated or passed in through the header feature. The default value is Yes, and FME will calculate the bounding box values.

## ***CITS Data Transfer Format (QLF) Reader Parameters***

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***CITS Data Transfer Format (QLF) Writer Parameters***

### **Coordinate Settings**

#### **Output Precision**

Defines the precision of output coordinates. To be precise, the value of this keyword will determine the number significant digits after the decimal for the output coordinates.

Range: 1 to 15 (default: 15)

### **Attribute Parameters**

#### **Number of Fields**

Defines the number of user-defined fields.

Range: 1 to 512 (default: 9)

## **CityGML Reader Parameters**

### Read Textures and Materials

If checked, appearance information specified in the CityGML instance document (including texture files) will be read into the FME Appearances library.

### Include X3DMaterials and Parameterized Textures as Feature Types

If checked, feature types for X3DMaterial and ParameterizedTexture elements will be created.

## **SRS Parameters**

### GML SRS Axis Order

Overrides the axis order when reading coordinate tuples in a CityGML <pos> or <posList> element. Valid values are "1,2,3" and "2,1,3".

## **Schema Attributes**

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## **Search Envelope**

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## CityGML Writer Parameters

### Application Domain Extension

Specifies the name of the Application Domain Extension (ADE), if any, to be used.

#### None

Choose this if you do not want to specify an Application Data Extension.

#### NoiseADE

NoiseADE extends the CityGML model by adding new feature-types and attributes that allow noise data to be transported with a CityGML city model. To do this, the Noise ADE adds the NoiseRoadSegment, NoiseRailwaySegment, Train, NoiseCityFurnitureSegment feature-types, and any noise-specific attributes to the Building feature-type.

### CityGML Version

Specifies the version of CityGML to be written. The output documents will be quite different as CityGML changed significantly (especially with regards to the namespaces in which objects are located) between these two versions.

### File Contents

#### Character Encoding

By default, the CityGML writer produces UTF-8 encoded documents. If this parameter is set to another encoding, the writer will transcode the data to the specified encoding.

### SRS Parameters

#### GML srsName

The CityGML writer will attempt to write srsName attributes on the geometry based on EPSG numbers that match the coordinate system of the features that it is writing. In some cases, no such well-known name exists. In which case, no srsName will be written. However if the user wishes to provide an srsName attribute, they can set the keyword SRS\_NAME, and its value will be inserted into the srsName attribute of the geometry written.

Note: This is not the same as setting the coordinate system keyword/parameter for the writer. No reprojection will be done on the basis of the SRS\_NAME keyword. This keyword is strictly for those cases where the user can provide a name (and possibly an axis order) for an srsName that FME is not aware of.

#### GML SRS Axis Order

This parameter is only used when the user is providing an srsName via the srsName parameter. It determines the coordinate order when writing geometries.

## ***Collaborative Design Activity (COLLADA) Reader Parameters***

### **Coordinate System**

#### Move to World Coordinate System

If the value is Yes, the companion .prj and .fwt files (having the same name as the .dae file) will be read in order to acquire the coordinate system and the data necessary in order to convert points to the world coordinate system.

Note that in the absence of a companion .fwt file with the same name as the .dae file, FME will look in the same directory for a file named global.fwt. For the companion .prj file, FME will only look for a file named global.prj.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Collaborative Design Activity (COLLADA) Writer Parameters**

### **Texture/Material**

#### Output Texture Directory

The directory to write texture files referenced by the Collada .dae files. The texture output directory is generally a subdirectory of the output dataset but can be any path relative to the output dataset. All textures image files for the dataset being produced will be written to this directory.

Textured appearances that are shared between feature types of the same dataset will produce Collada materials in different .dae files that share the same texture image file. Texture file names are based on the feature appearance name. Existing old files of the same name from another run or another dataset will be overwritten with new files of the same name.

#### Write Texture List Files

If you choose Yes, a .txt file will be created that contains a list of external texture files used in the corresponding .dae file. The texture list file will have the same base name as the corresponding .dae file but will have the \_texture.txt suffix added.

For example, the external texture names for

*c:\data\collada\house.dae*

will be in a file called

*c:\data\collada\house\_textures.txt*

and texture names for

*c:\data\collada\barn.dae*

will be in a file called

*c:\data\collada\barn\_textures.txt*

If "house" and "barn" features share textured appearances, then the shared texture name will be both <feature\_type> and \_textures.txt files.

### **Optimization**

#### Compress Geometry

By default, the Collada writer processes all geometry into triangles and creates Collada meshes containing lists of triangles. If this option is Yes, the writer will attempt to combine adjacent state sharing triangles into triangle strips and store them in Collada tristrip mesh structures as opposed to triangle mesh structures. This optimization can significantly compress geometry to save space and reduce load time.

Note: If you choose Yes, make sure your Collada consuming applications support the tristrip structure as some viewers are known to ignore tristrip primitives. For example, Google Earth only reads triangles and will ignore tristrips.

### **Coordinate System**

#### Move to Local Coordinate System

**PRJ\_ONLY:** A companion .prj file containing the coordinate system and having the same name as the .dae file will

be written in the same directory as the .dae file.

**Yes:** In addition to writing the .prj file as in the PRJ\_ONLY option, a companion .fwt file with the same name as the .dae file will be written in the same directory as the .dae file and the coordinates of all the points in the written features will be normalized to the interval  $[-0.5, 0.5]$  on the largest side of their XYZ-bounding cube.

The other dimensions will be scaled proportionally. The transformation matrix required to scale the model back to world coordinates is contained in the .fwt file. This can be used to improve precision of the written coordinates.

## **ComGraphix Data Exchange Format (CGDEF) Reader Parameters**

### **Symbol Handling**

#### Explode Symbols

This parameter will determine the reader's action when it comes across a symbol in the file.

If this box is checked, then the reader, rather than outputting a symbol feature, will look at the symbol definition for that symbol and output it as a series of individual features that make up the symbol.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **ComGraphix Data Exchange Format (CGDEF) Writer Parameters**

### **File Parameters**

#### Prototype File

This parameter specifies the file name of the CGDEF file that is used as a template file. You can enter or select the prototype filename. This file should include all setup and header information along with RGB color definitions (required), symbol definitions (required), and overlay definitions (optional). The writer will collect this information and use it as it processes features to output.

## **Comma Separated Value (CSV) Reader Parameters**

### **Field Separation**

#### Separator Character

The single character or tab character specified as the separator for the values on a line.

#### Remove Duplicate Separators

If this box is checked, then multiple contiguous delimiters are treated as a single delimiter; otherwise, each delimiter is treated as if it delimits a different field.

#### Strip Quotes

Some CSV files place quotation marks around all values they contain. By checking this box, the column values will be stripped of their quotes.

### **Field Names**

#### File Has Field Names

If the field or column names of the CSV table are specified in the file, then check this value and the names will be extracted from the file. Otherwise, the columns of the CSV table are given default names (i.e. col0, col1, ... , colN). The default value of this parameter is unchecked.

#### Field Names Follow Header

If the column/field names is AFTER the header information instead of BEFORE, then you can set this option. Otherwise, by default, the first line of the file will be used as the column/field names.

Notes: This parameter is ignored if Has Field Names is not checked. If Field Names Follow Header is checked, Lines to Skip should also be set to skip at least one row, or the first row will be also be processed as a feature.

### **Lines to Skip**

#### Header

This indicates the number of lines to skip at the top of the file. By default, no lines are skipped. Each line skipped is logged to the log file. This is useful if the CSV file contains a header line of field names or other descriptive material (like comments) that should be skipped.

#### Footer

This field indicates the number of footer lines to skip at the bottom of the file. By default, no footer lines are skipped. Each footer line skipped is logged to the log file. This is useful if the CSV file contains a footer line of descriptive material that should be skipped.

### **Schema Generation**

#### Maximum Lines to Scan

If the field structure of the first several rows of a file is representative of the remainder of the file, this option can be set to prevent FME from unnecessarily reading further rows from a potentially large file when determining its schema. If this is set to 0, there will be no limit and all rows will be read.

Note: This setting only applies to the schema generation; it does not limit the number of rows read when the translation is run.

## File Content

### Character Encoding

This specifies the file encoding to use when reading.

Encodings
UTF-8
UTF-16LE
UTF-16BE
ANSI
BIG5
SJIS
CP437
CP708
CP720
CP737
CP775
CP850
CP852
CP855
CP857
CP860
CP861
CP862
CP863
CP864
CP865
CP866

CP869
CP932
CP936
CP950
CP1250
CP1251
CP1252
CP1253
CP1254
CP1255
CP1256
CP1257
CP1258
ISO8859-1
ISO8859-2
ISO8859-3
ISO8859-4
ISO8859-5
ISO8859-6
ISO8859-7
ISO8859-8
ISO8859-9
ISO8859-13
ISO8859-15

### CSV File Preview

Shows a preview of the input CSV file.

## ***Comma Separated Value (CSV) Writer Parameters***

### **Output File Parameters**

#### Append to File

This specifies whether rows will be appended to existing files if a matching CSV file was found in the destination directory.

#### Output Field Names on First Line

If checked, the first line of the CSV file will be written with the column names.

#### Extension

Enter the file name extension for the output file. The default is .csv

### **Field Separation**

#### Separator Character

The single character or tab character specified as the separator for the values on a line.

## ***Compressed ARC Digitized Raster Graphics (CADRG) Reader Parameters***

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Danish DSFL Reader Parameters**

### **Spline Interpolation**

#### Points Per Segment

DSFL data files may contain spline features, which are intended to be displayed as smooth curves. Since most GIS formats do not support splines, the FME will turn the spline into a normal line, and approximate the spline curve by interpolating additional points between each value. Larger values create smoother curves, and larger resulting output files.

#### Output Origin Data

Determines whether or not the origin data is output as a separate features. If this box is checked, then origin data is output as dsfl\_origin feature type with each feature having its unique index number in dsfl\_record\_index\_number attribute. If this box is not checked, then the origin data is merged with other data features.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Danish UFO Reader Parameters***

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Database (Attributes Only) Reader Parameters**

### **Database Connection**

Select the database to be used. Depending on your database, you may also have to enter a username and password.

### Workspace

The name of the Oracle Workspace Manager workspace that will be used by the reader. All tables read by the reader will be read using the same workspace. If this parameter is omitted, or left blank, the default LIVE workspace will be used.

### **Constraints**

#### Remove Schema Qualifier

Specifies whether to keep the schema qualifier. The full name of a table in an Oracle database is of the format <schema\_name>.<table\_name>. Checking this box indicates that the reader should return the table name without any prefixes. This is useful, for example, when creating a workspace that will be passed on to another organization using the same table names.

When this box is checked during the generation of a workspace, the source feature types will be the table names without any prefix; otherwise, they will contain the owner name as a prefix. It is recommended that you do not change this setting after generating the workspace as it is possible for no features to be successfully passed onto the writer (since the writer is expecting feature types with different names).

Note: Even when this option is checked, if the table is owned by a user other than the current user, the <owner\_name> prefix will not be dropped so that the reader will find the correct table; however, the <data-base\_name> prefix will still be dropped.

### Table List

After you have completely specified the database connection, click the Browse button to select tables to import. A connection window appears while FME reads a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

## ***Database (Attributes Only) Writer Parameters***

### **Database Connection**

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Workspace

The name of the Oracle Workspace Manager workspace that will be used by the writer. All tables will be written using the same workspace. If this parameter is omitted, or left blank, the default LIVE workspace will be used.

## ***dBase (DBF) Reader Parameters***

### **File Contents**

#### Character Encoding

This optional parameter controls which character encoding is used to interpret text attributes from the DBF file. If the value is not set, then the character encoding will be automatically detected from the source DBF file. If the value is set, it will take precedence over the automatically detected character encoding.

This parameter is useful when the character encoding information stored in the DBF file is missing or incorrect.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## ***DES Reader Parameters***

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Digital Line Graph (DLG) Reader Parameters***

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Digital Map Data Format (DMDF) Reader Parameters**

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

### **Format Notes**

This format is not available with FME Base Edition.

## **Digital Terrain Elevation Data (DTED) Reader Parameters**

### **Feature Decimation**

#### Decimation Factor

DTED files can be very large, and you may not always need all the data at the full resolution of the input DTED (if you are testing, for example). For this reason, you can enter a decimation factor that specifies how much of the file is skipped. If you enter a factor of 1, you will get the entire file. If you enter a factor of 2, you will get every second point horizontally, and every second point vertically (thus significantly reducing the file size).

### **Dataset Parameters**

#### Read as DEM Raster

DTED files can be interpreted by FME as a group of associated point features or as a single grid feature. These settings determine which way FME will handle the raster data. Raster files can be translated much more efficiently as grid features than as many point features.

If Read as DEM Raster is checked, each raster file is handled as a single grid feature.

If Read as DEM Raster is not checked, the elevation values in a raster file are handled as individual point features.

#### Group By Filename

When this parameter is unchecked, the only feature type this reader will use is the reader type name, which in this case is DTED.

When this parameter is checked, the feature type of each dataset is the filename (without the path or the extension) of the dataset.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Digital Terrain Elevation Data (DTED) Writer Parameters**

### **Production**

#### Producing Agency

Sets the producer agency code for the generated cells. The first two characters should be the DIA country code followed by additional code information provided by the national defense mapping agency.

#### Production Date

The date the data was compiled. This date should be the most descriptive date in YYYY format.

#### Vertical Accuracy

This parameter may be used to set the absolute vertical accuracy (User Header Label [UHL] record, characters 29 to 33) with 90% assurance that the linear errors will not exceed this value relative to mean sea level. Valid values are integral numbers in the range 0000-9999 with leading zeros. By default, the value NA is used indicating the vertical accuracy information is not available.

#### Create Subdirectories

If this box is checked, this option will create subdirectory structure with tiles stored in subdirectories by longitude with files named by latitude. If this box is left unchecked, this option will create files with no subdirectory naming structure.

For example, if the output is specified by data written to the 1 degree square at 80 degrees west, and 43 degrees north and DATASET is C:\Output\Data:

- If the option is unchecked, the output would be a file written out to C:\Output\Data\w080n043.dt1.
- If the option is checked, the output would be written out to C:\Output\Data\w80\n43.dt1.

### **Security**

#### Level

This setting defines the security classification code field in the Data Set Identification (DSI) record (character 4). The default value is Unclassified.

### **Resolution**

#### Resolution Level

The product level to use. Near the Equator, products have the following resolutions for a one-degree square cell:

**Level 0:** 121x121 (30 arc second postings)

**Level 1:** 1201x1201 (3 arc second postings)

**Level 2:** 3601x3601 (1 arc second postings)

**Auto** (default): If the source format is DTED, "Auto" will use the resolution level of the source data. If the source format is not DTED, "Auto" sets the default resolution to "1" .

Note: The resolution in latitude is reduced for cells near the North and South Poles.

## Directory and File Pathnames Reader Parameters

### Path Parameters

#### Path Filter

Specifies the search pattern to use when looking for files and directories. Only filenames and directory names that match the Path Filter will be output as features.

Special Characters Supported	
?	Matches any single character.
*	Matches any sequence of zero or more characters.
**	Matches the current directory and recursively all sub-directories
[chars]	Matches any single character in chars. If chars contains a sequence of the form a-b then any character between a and b (inclusive) will match.
{ab, cd,e,...}	Matches any of the strings ab, cd, e, etc.

#### Examples

C:\data\*.dgn	expands to all files in the c:\data directory that end with a .dgn extension
C:\data\**\*.dgn	expands to all files in the c:\data directory and any subdirectory below it that ends with a .dgn extension
C:\**\*.dgn	expands to all files on the entire C: drive that end with a .dgn extension
C:\{data,archive}\*.dgn	expands to all files in the c:\data and c:\-archive directories that end with a .dgn extension
C:\{data,archive}\92*.dgn	expands to all files in the c:\data and c:\-archive directories that start with 92 and end with a .dgn extension
C:\data\92?034.dgn	expands to all files in the c:\data directory that start with 92, have any letter or number next, and end with 034.dgn
C:\data\92[a-z]034.dgn	expands to all files in the c:\data directory that start with 92, have any lowercase letter next, and end with 034.dgn

#### Allowed Path Type

Specifies whether to search for both files and directories, files only, or directories only.

#### Retrieve file properties

Specifies whether to populate the path\_modified\_date, path\_accessed\_date, path\_created\_date, path\_filesize, path\_ownership and path\_readonly attributes for files and directories with the corresponding timestamps, file size, owner name and read-only attributes.

## **Dutch TOP10 GML Reader Parameters**

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## **EDIGÉO Reader Parameters**

### **Read Mode**

#### Read Raw Data

Indicates whether the EDIGÉO reader will not process the data that is read from the dataset to create higher order topological features.

In a EDIGÉO dataset, when data is read without any processing, feature primitives do not have any geometry. Instead, "links" must be read from the dataset to link the feature primitives to geographical primitives. Thus, when this box remains unchecked, a significant amount of processing is done to construct each feature. In this process, not all of the original information can be output by the reader.

If the box is checked, data will be output by the reader exactly how the data is represented in the file, and the parameters **Read Quality Data**, **Add Quality References to Features**, and **CNIG Names** will have an implied value of No (so these parameters will be greyed out).

### **Feature Type Names**

Indicates which format feature type names will be in.

#### CNIG Names

If selected, feature type names will appear as Conseil National de l'information Géographique (CNIG) nomenclatures.

#### EDIGEO Object Codes

An EDIGÉO object code classification system is comprised of one alphabetical character followed by four numerics, each element delimited by an underscore (for example, H\_11\_4\_0). If **CNIG names** is chosen, the reader will use the corresponding CNIG nomenclature instead of the EDIGÉO object code (for example, H\_11\_4\_0 will become PARCELLE).

### **Data Quality Options**

#### Read Quality Data

Indicates whether quality features are read by the reader. Quality features have no geometry, and their feature type name will be a three-letter code. These quality features carry information that is complementary to topological features.

#### Add Quality References to Features

Indicates whether a list attribute, which carries values that reference quality features, is added to topological features.

The structured list attribute, which holds references to quality features, is named *qal{ }.ref\_id*. The format for the elements in this list is identical to the format of the format attribute *edigeo\_code*.

### **Logging**

#### Log French Error Output

Indicates whether verbose warnings and errors are output to the log file. These messages are in French.

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Encapsulated PostScript (EPS) Writer Parameters***

### **Size**

#### Width

Specifies the maximum IEPS units (1 unit = 1/72 inch) for the width of the output map.

#### Height

Specifies the maximum IEPS units (1 unit = 1/72 inch) for the height of the output map.

#### Buffer Ratio

The percentage of buffer room between the border of the output IEPS map within the specified bounding box.

#### Line Width

Specifies the default line width used to draw lines. This is measured in IEPS units.

### **Line Join Type**

Specifies the default corner types that should be drawn onto paths. The values specify the default shape to be put at corners of paths painted.

#### Square

Specifies a sharp corner.

#### Round

Specifies a rounded corner.

#### Butt

Specifies a butt-end corner.

### **Map Parameters**

#### Maintain Map Aspect Ratio

Specifies whether or not the source map dimensions will be kept or stretched to fit the output bounding box. If the parameter is checked, the original map aspect will be maintained to fit within the destination-defined bounding box. This means that the entire destination bounding box defined may not be used. Alternatively, unchecking the parameter causes the original map to be stretched onto the destination bounding box defined.

#### Force CMYK Colors

Specifies whether or not to force all output colors to be in CMYK format and defined as such in the IEPS file. When this parameter is checked, then all color usage output to the EPS file is done in CMYK. When this parameter is unchecked, a mix of RGB and CMYK color schemes may be in the output EPS file.

## ***EPOS 3 (OpenSpirit) Reader Parameters***

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be read. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to read from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when read.

Custom unit systems are not currently supported.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ER Mapper ECW Reader Parameters***

### **Dataset Parameters**

#### Group by Filename

**No (default):** The only feature type this reader will use is the reader type name, which in this case is ECW.

**Yes:** The feature type of each dataset is the filename (without the path or the extension) of the dataset.

#### Apply GCPs

**No (default):** The GCP information is preserved as properties on the raster geometry.

**Yes:** The GCP information, including a GCP projection, will be read from the file and applied to the raster data as an affine transformation.

### **GCP Interpolation Method**

#### GCP Interpolation Method

Choose from NearestNeighbor (default), Bilinear or Bicubic.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ERDAS IMAGINE Reader Parameters***

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you do not select this option, the only feature type this reader will use is the reader type name, which in this case is ERDAS.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ERDAS RAW Reader Parameters***

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you select this option, the only feature type this reader will use is the reader type name, which in this case is ERDASRAW.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ER Mapper ERS Reader Parameters***

### **Dataset Parameters**

#### Group by Filename

**No (default):** The only feature type this reader will use is the reader type name, which in this case is ERS.

**Yes:** The feature type of each dataset is the filename (without the path or the extension) of the dataset.

#### Apply GCPs

**No (default):** The GCP information is preserved as properties on the raster geometry.

**Yes:** The GCP information, including a GCP projection, will be read from the file and applied to the raster data as an affine transformation.

### **GCP Interpolation Method**

#### GCP Interpolation Method

Choose from NearestNeighbor (default), Bilinear or Bicubic.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ESRI ArcGIS Binary Grid (AIG) Reader Parameters***

### **Dataset Parameters**

#### Group by Filename

**No (default):** The only feature type this reader will use is the reader type name, which in this case is ARCVIEWGRID.

**Yes:** The feature type of each dataset is the filename (without the path or the extension) of the dataset.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ESRI ArcGIS Layer Reader Parameters***

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## ESRI ArcGIS Map Reader Parameters

### Dataset

#### Dataset

The file from which the data is to be read.

### Constraints

#### Table List

Click the Browse button to select tables to extract.

#### Resolve Domains

Specifies whether to resolve attributes that have a default coded value domain (i.e., the domain was not set up through a subtype) associated with them. This means that when an attribute of a feature has a coded value domain associated with it, another attribute will also be added that represents the textual description of the coded attribute. The new attribute will be *<attribute-name>\_resolved*, where *<attribute-name>* is the name of the attribute containing the code. This attribute will only be added when *<attribute-name>* contains a non-NULL value.

#### Ignore Map Extents

Specifies whether to read only those features that are within the extents of the ArcMap document, or to ignore the extents and read all the features in the layer.

#### Read Invisible Layers

Specifies whether to read features from an invisible layer. (This does not affect the reading of features from tables.)

#### Use Selection Set

Specifies whether or not to only read the selected features. It is used in conjunction with **Read Invisible Layers** and **Ignore Map Extents** since it is possible that some of the selected features are currently invisible and/or outside the current extents of the map. If the box is checked and there are no features in the selection set, all the features from the specified layers will be read. When the layer name of a layer is blank, the feature type is set to the feature class name of the layer, rather than using the blank layer name.

### Schema Attributes

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### Search Envelope

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input

features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **ESRI ArcInfo Coverage Reader Parameters**

### **Feature Assembly Mode**

#### Attach Attributes and Build Polygons

Check this box to enable all other settings box options. This option switches the reader between "raw" and "normal" modes. Normally the various bits and pieces of ArcInfo coverages (E00, binary, or PC binary) are combined to make wholly formed features, complete with attributes and resolved topology, but there are very rare special cases where it is useful to consider the pieces of the features as separate entities. This is mostly designed for performing ArcInfo-to-ArcInfo translations, where some simple manipulation of the feature's coordinates is being performed along the way.

### **Text Curves**

Defines how the reader handles text elements that follow a splined curve in ArcInfo. In the past, the FME has simply drawn a straight line from the first point of the curve to the last point, and placed the text along that line. These selections allow you to change the FME's interpretation of curved text features.

#### Follow

Spaces the characters along the original curve, and generates a separate character for each (non-whitespace) character of the text (the default).

#### Fit

Tells FME to evenly space out the characters of the text along the curve, so that the left edge of the first character is on the first point of the curve, and the right edge of the last character is on the last point.

#### Ignore

Reverts FME to its traditional behavior.

### **Optional Feature Types**

#### Extract Bounds

ArcInfo coverages typically include an info file named BND, which defines the extents of the coverage. FME will normally ignore the contents of this file. If Extract Bounds is checked, FME will create a single feature representing the coverage extent information.

#### Extract Tics

ArcInfo coverages typically include an info file named TIC, which defines the tic points for the coverage. FME will normally ignore the contents of this file. If Extract Tics is checked, FME will create a feature for each TIC point.

#### Generate Node Features

Traditionally the ArcInfo reader reads the NAT table and outputs the NODE attributes as a plain set of attributes. If this option is checked, the endpoints of the ARC features are turned into NODE features, which are then joined with the NAT table attributes to provide fully formed point features.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ESRI ArcInfo Coverage Writer Parameters***

### Coverage Precision

Select single or double to set the precision of the output Uncompressed E00 coverage.

### Linear Topology

If you select Create, the writer will first create a line-node topology when writing lines. Otherwise, the writer will bypass that step.

## **ESRI ArcInfo Export (E00) Reader Parameters**

### **Feature Assembly Mode**

#### Attach Attributes and Build Polygons

Switches E00 reader between "raw" and "normal" modes. Normally the various bits and pieces of ArcInfo coverages (E00, binary, or PC binary) are combined together to make wholly formed features, complete with attributes and resolved topology, but there are very rare special cases where it is useful to consider the pieces of the features as separate entities. This is mostly designed for performing ArcInfo-to-ArcInfo translations, where some simple manipulation of the feature's coordinates is being performed along the way.

### **Text Curves**

Defines how the E00 reader handles text elements that follow a splined curve in ArcInfo. In the past, the FME has simply drawn a straight line from the first point of the curve to the last point, and placed the text along that line. These selections allow you to change the FME's interpretation of curved text features.

#### Follow

Spaces the characters along the original curve, and generates a separate character for each (non-whitespace) character of the text (this is the default).

#### Fit

Tells FME to evenly space out the characters of the text along the curve, so that the left edge of the first character is on the first point of the curve, and the right edge of the last character is on the last point.

#### Ignore

Reverts FME to its traditional behavior.

### **Optional Feature Types**

#### Extract Bounds

ArcInfo coverages typically include an info file named BND, which defines the extents of the coverage. FME will normally ignore the contents of this file. If Extract Bounds is checked, FME will create a single feature representing the coverage extent information.

#### Extract Tics

ArcInfo coverages typically include an info file named TIC, which defines the tic points for the coverage. FME will normally ignore the contents of this file. If Extract Tics is checked, FME will create a feature for each TIC point.

#### Generate node features

Traditionally the ArcInfo reader reads the NAT table and outputs the NODE attributes as a plain set of attributes. If this box is checked, the endpoints of the ARC features are turned into NODE features, which are then joined with the NAT table attributes to provide fully formed point features.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **ESRI ArcInfo Export (E00) Writer Parameters**

### Coverage Precision

Select single or double coverage precision to set the precision of the output Uncompressed E00 coverage.

### Compression

Select the compression level that will be used. You will use less disk space if you select Partial or Full compression; however, many non-ESRI applications can only understand E00 files that are not compressed.

### Linear Topology

If you select Create, the writer will first create a line-node topology when writing lines. Otherwise, the writer will bypass that step.

### **Format Notes**

This format is not available with FME Base Edition.

## **ESRI ArcInfo Generate Reader Parameters**

### **Closed Line Behavior**

#### Read Closed Lines as Polygons

Specifies how to determine the type of closed lines that may be indistinguishable from polygons.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **ESRI ArcSDE Raster Catalog Writer Parameters**

### **Database Connection**

#### Connection

**OS Authentication** provides the necessary information to connect to the SDE server, by validating the username and password through the operating system.

If you choose **Parameters** you will have to fill in the username and password fields.

#### Server

Enter the ArcSDE server name.

#### Database

This field identifies the SDE database from which features are retrieved. In SDE, the dataset is referred to as the Database. The Source Dataset area of the Set Translation Parameters dialog box will default to `sde`, which is the dataset name you will use most often. This field is required no matter what the underlying RDBMS of the SDE. Some RDBMSes, such as Oracle, do not require a value, whereas others, such as SQLServer, do. For databases that do not require the value, the field will be ignored.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Instance

The instance to which FME is to connect. The usual value for systems with a single SDE instance is `esri_sde`. The instance can also be of the form `port:<port-number>`, which is usually `port:5151` (you may have to confirm this with your System Administrator).

### **Table Parameters**

#### Configuration

This field sets the default value for the configuration parameter `SDE_CONFIG_KEYWORD`. It specifies the storage parameters for the raster column. Note that in releases before ArcGIS 9.3, the configuration keyword specified must be present in the `$SDEHOME/etc/dbtune.sde` file.

If not specified, the keyword `DEFAULTS` will be used.

For more information, search *parameter name-configuration string pairs* in ESRI ArcGIS Server help files.

### **Format Notes**

This format is not available with FME Base Edition.

## **ESRI ArcSDE Raster Map Writer Parameters**

### **Database Connection**

#### Connection

**OS Authentication** provides the necessary information to connect to the SDE server, by validating the username and password through the operating system.

If you choose **Parameters** you will have to fill in the username and password fields.

#### Server

Enter the ArcSDE server name.

#### Database

This field identifies the SDE database from which features are written. In SDE, the dataset is referred to as the Database. The Destination Dataset area of the Set Translation Parameters dialog box will default to sde, which is the dataset name you will use most often. This field is required no matter what the underlying RDBMS of the SDE. Some RDBMSes, such as Oracle, do not require a value, whereas others, such as SQLServer, do. For databases that do not require the value, the field will be ignored.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Instance

The instance to which FME is to connect. The usual value for systems with a single SDE instance is esri\_sde. The instance can also be of the form port:<port-number>, which is usually port:5151 (you may have to confirm this with your System Administrator).

### **Table Parameters**

#### Configuration

This field sets the default value for the configuration parameter SDE\_CONFIG\_KEYWORD. It specifies the storage parameters for the raster column. Note that in releases before ArcGIS 9.3, the configuration keyword specified must be present in the \$SDEHOME/etc/dbtune.sde file.

If not specified, the keyword DEFAULTS will be used.

For more information, search *parameter name-configuration string pairs* in ESRI ArcGIS Server help files.

### **Format Notes**

This format is not available with FME Base Edition.

## **ESRI ArcSDE Raster Reader Parameters**

### **Database Connection**

#### Connection

**OS Authentication** provides the necessary information to connect to the SDE server, by validating the username and password through the operating system. If you choose **Parameters** you will have to fill in the username and password fields.

#### Server

Enter the ArcSDE server name.

#### Database

This field identifies the SDE database from which features are retrieved. In SDE, the dataset is referred to as the Database. The Source Dataset area of the Set Translation Parameters dialog box will default to sde, which is the dataset name you will use most often. This field is required no matter what the underlying RDBMS of the SDE. Some RDBMSes, such as Oracle, do not require a value, whereas others, such as SQLServer, do. For databases that do not require the value, the field will be ignored.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Instance

The instance to which FME is to connect. The usual value for systems with a single SDE instance is esri\_sde. The instance can also be of the form port:<port-number>, which is usually port:5151 (you may have to confirm this with your System Administrator).

### **Constraints**

#### Remove Table Qualifier

When selected, the table name's prefix is dropped. The prefix includes the database name, where applicable (i.e. SQL Server), and the owner name if the owner name is the same as the currently connected user.

#### Table List

Click the Browse button to select tables for export. You may only select this after you've completely specified the database connection.

After you click the Browse button, The ArcSDE Table List Extraction window appears while the system compiles a table list from the database. Once the table list appears, you can select one or more tables and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Input Settings dialog.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

***Format Notes***

This format is not available with FME Base Edition.

## **ESRI ArcSDE Raster Writer Parameters**

### **Database Connection**

#### Connection

OS Authentication provides the necessary information to connect to the ESRI ArcSDE server by validating the username and password through the operating system.

If you choose **Parameters**, you will have to fill in the username and password fields.

If you choose **Connection File**, you will have to provide a connection file that contains the necessary information to connect to the ESRI ArcSDE server.

#### Server

Enter the ESRI ArcSDE server name.

#### Database

Enter the name of the database you want to use.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Instance

This will usually be port:5151. Contact your System Administrator to confirm this.

### **Table Parameters**

#### Configuration

Enter a keyword to specify the storage parameters to use for the layer. Note that in releases before ArcGIS 9.3, the configuration keyword specified must be present in the `$SDEHOME/etc/dbtune.sde` file.

If not specified, the keyword `DEFAULTS` will be used.

For more information, search *parameter name-configuration string pairs* in ESRI ArcGIS Server help files.

## **ESRI ArcSDE Reader Parameters**

### **Database Connection**

#### Connection

**OS Authentication** provides the necessary information to connect to the SDE server, by validating the username and password through the operating system. If you choose **Parameters** you will have to fill in the username and password fields.

#### Server

Enter the ArcSDE server name.

#### Database

This field identifies the SDE database from which features are retrieved. In SDE, the dataset is referred to as the Database. The Source Dataset area of the Set Translation Parameters dialog box will default to sde, which is the dataset name you will use most often. This field is required no matter what the underlying RDBMS of the SDE. Some RDBMSes, such as Oracle, do not require a value, whereas others, such as SQLServer, do. For databases that do not require the value, the field will be ignored.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Instance

The instance to which FME is to connect. The usual value for systems with a single SDE instance is esri\_sde. The instance can also be of the form port:<port-number>, which is usually port:5151 (you may have to confirm this with your System Administrator).

#### Version

The SDE version to which FME connects. The version must already exist and the current user must have privileges set so that it can access the version. If the VERSION\_NAME directive is not used, then FME attempts to connect to SDE.DEFAULT. If there is no SDE schema, FME then attempts to connect to dbo.DEFAULT. If the name is not prefixed by the owner of the version, then it is assumed that the owner is the current user. This setting is only applicable when dealing with versioned tables.

### **Constraints**

#### Remove Schema Qualifier

When selected, the table name's prefix is dropped. The prefix includes the database name, where applicable (i.e. SQL Server), and the owner name if the owner name is the same as the currently connected user.

#### Table List

Click the Browse button to select tables for export. You may only select this after you've completely specified the database connection.

After you click the Browse button, The ArcSDE Table List Extraction window appears while the system compiles a table list from the database. Once the table list appears, you can select one or more tables and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Input Settings dialog.

#### WHERE Clause

Enter any SQL where clause that constrains the attributes of the layers selected in the layer list (for example, NUM-LANES=2).

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Format Notes**

This format is not available with FME Base Edition.

## ESRI ArcSDE Writer Parameters

Note: If you're using ArcSDE 3.x/8.x/9.x with Oracle, you don't have to change the default ArcSDE dataset name, since Oracle ignores this field.

### Database Connection

#### Connection

**OS Authentication** provides the necessary information to connect to the SDE server, by validating the username and password through the operating system.

If you choose **Parameters** you will have to fill in the username and password fields.

#### Server

Enter the ArcSDE server name.

#### Database

This field identifies the SDE database from which features are written. In SDE, the dataset is referred to as the Database. The Destination Dataset area of the Set Translation Parameters dialog box will default to sde, which is the dataset name you will use most often. This field is required no matter what the underlying RDBMS of the SDE. Some RDBMSes, such as Oracle, do not require a value, whereas others, such as SQLServer, do. For databases that do not require the value, the field will be ignored.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Instance

The instance to which FME is to connect. The usual value for systems with a single SDE instance is esri\_sde. The instance can also be of the form port:<port-number>, which is usually port:5151 (you may have to confirm this with your System Administrator).

#### Version

The SDE version to which FME connects. The version must already exist and the current user must have privileges set so that it can access the version. If the VERSION\_NAME directive is not used, then FME attempts to connect to SDE.DEFAULT. If there is no SDE schema, FME then attempts to connect to dbo.DEFAULT. If the name is not prefixed by the owner of the version, then it is assumed that the owner is the current user. This setting is only applicable when dealing with versioned tables.

### Table Parameters

#### Configuration

Enter a keyword to specify the storage parameters to use for the layer. Note that in releases before ArcGIS 9.3, the configuration keyword specified must be present in the \$SDEHOME/etc/dbtune.sde file.

If not specified, the keyword DEFAULTS will be used.

For more information, search *parameter name-configuration string pairs* in ESRI ArcGIS Server help files.

#### Dimension

Defines the dimension of the spatial data to be stored. This must be 2 or 3.

### Minimum X and Y values

Are for the entire layer – features that have smaller coordinate values will cause the translation to be aborted (unless the writer has been directed to skip bad data).

### Scale

The scale of the spatial column. This defines the number of units per user coordinate stored within the spatial column.

### Grid Size

Measured in the ground units of the features, not the SDE's "system" units.

### **Format Notes**

This format is not available with FME Base Edition.

## ***ESRI ASCII Grid Reader Parameters***

### **Dataset Parameters**

#### Group by Filename

**No (default):** The only feature type this reader will use is the reader type name, which in this case is ESRI-ASCIIGRID.

**Yes:** The feature type of each dataset is the filename (without the path or the extension) of the dataset.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **ESRI File Geodatabase Reader Parameters**

### **Database Connection**

#### Geodatabase

The geodatabase file from which the data is to be read.

### **Constraints**

#### Table List

Click the Browse button to select tables for export. You may only select this after you've completely specified the database connection.

After you click the Browse button, a search window appears while the system compiles a table list from the database. Once the table list appears, you can select one or more tables, and then click the OK button to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

Enter any SQL where clause that constrains the attributes of the layers selected in the layer list (for example, NUM-LANES=2).

#### Spatial Data Only

Used for translating spatial data only. When this box is checked, non-spatial tables, relationships, domains, and subtypes will not be translated. If this directive is specified when generating a workspace or mapping file, then no schemas will be returned for non-spatial tables.

#### Resolve Domains

Specifies whether or not to resolve the domain code found in feature classes and tables into the domain value.

This means that when an attribute of a feature has a coded value domain associated with it, another attribute will also be added that represents the textual description of the coded attribute. The new attribute will be *<attribute-name>\_resolved*, where *<attribute-name>* is the name of the attribute containing the code. This attribute will only be added when *<attribute-name>* contains a non-NULL value.

#### Resolve Subtypes

Specifies whether or not to resolve the subtype field values found on feature classes and tables into the name of the actual subtype.

#### Ignore Network Info

Specifies whether to read the network portion of network features. When checked, junctions will be read as points (geodb\_point) and edges will be read as lines (geodb\_polyline). Additionally, none of the network related attribution will be supplied on the features. Checking this option speeds up reading of network features significantly.

#### Ignore Relationship Info

Determines whether to read relationship features present in a source dataset. When this parameter is checked, feature types containing simple relationships will be ignored, and feature types containing attributed relationships will be treated as non-spatial tables. When this parameter is unchecked, relationships will be read normally as either simple or attributed. The speed of reading features is vastly improved if relationships are ignored.

## Split Complex Edges

Determines whether complex edge features should be split. When split, complex edge features are read at the element level rather than the feature level. The element level represents the logical view of the geometric network. As a result, no network connectivity information is lost.

For information on the attributes that each FME feature stores when this option is checked, please see the ESRI Geodatabase Reader/Writer > Reader Overview > Reader Keywords > SPLIT\_COMPLEX\_EDGES.

## Split Multi-Part Annotations

Specifies whether or not to split multi-part annotations into separate features for each 'element' when reading. If this parameter is checked, a single feature for each element (usually a word) in a multi-part annotation will be produced on reading, resulting in feature-specific attributes such as angle and text position being stored according to the location of each element. If this parameter is unchecked, multi-part annotations will be read normally, as a single feature storing a single set of attributes describing the positioning of the text.

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

### **Format Notes**

This format is not available with FME Base Edition.

## **ESRI File Geodatabase Writer Parameters**

### **General Parameters**

#### Overwrite Existing Geodatabase

If checked, deletes the existing database.

#### Transaction Type

Indicates which transaction mechanism the Geodatabase writer should use. Within ArcGIS, there are currently two transaction mechanisms: edit sessions and (regular) transactions. An edit session corresponds to a long transaction. During an edit session, edits made by other users do not become visible until the edit session is ended. If a translation does not complete successfully and the Geodatabase writer is using an edit session, then all the edits will be discarded.

- Edit Session: Starts an edit session and then ends it when the translation is finished. This value should be used when edits are made to the tables that have custom behavior associated with them.
- Transactions: Starts the (regular) transaction mechanism. This can be used only when writing to non-versioned tables that do not have custom behavior.
- None: No transaction mechanism is used. This can be used only when writing to non-versioned tables that do not have custom behavior.

### **Geometry Settings**

#### Simplify Geometry

Simplifying geometries can be expensive. If checked, the geometry being written out is simplified (if it is currently a non-simple geometry).

For ArcGIS 9 only – if ArcGIS 8.x is installed and this is selected, geometries will not be simplified.

#### Contains Z Values

Determines whether or not the dataset contains z coordinates. Valid values are Yes, No, or Auto Detect. The default is Auto Detect.

Because Geodatabase does not allow mixed 2D and 3D features in the same feature class, it is best to choose a value of Yes for this parameter if you have mixed dimensions. The 2D features will be forced to 3D.

When set to Auto Detect, the writer determines the dimension of the feature class by checking the dimension of the first feature headed for that feature class.

Note: The values populated in the settings box set the values for writer directives and for feature type parameters. Since some feature type parameters have equivalent writer-level directives, the settings box value will be used in two places. The feature type parameters take precedence over writer directives. The only time the writer-level directives will be used is when there is no equivalent feature type parameter, or the parameter was not supplied.

### **Format Notes**

This format is not available with FME Base Edition.

## **ESRI Geodatabase ArcSDE Reader Parameters**

### **Database Connection**

#### Connection

**OS Authentication** provides the necessary information to connect to the SDE server, by validating the username and password through the operating system.

If you choose **Parameters** you will have to fill in the username and password fields.

If you choose **Connection File**, you will have to provide a connection file that contains the necessary information to connect to the SDE server.

#### Server

Enter the ArcSDE server name.

#### Database

This parameter will default to sde, which is the dataset name you will use most often. Change the default name if required. Note that if you're using ArcSDE 3.x/8.x/9.x with Oracle, you don't have to change the default ArcSDE dataset name, since Oracle ignores this field.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Instance Name

This will usually be port:5151. Contact your System Administrator to confirm this.

#### File

This parameter identifies the pathname of a connection file to be used to connect to an Enterprise Geodatabase. A connection file provides the necessary information to connect to the SDE server, such as the server name or the username. The connection file must be a \*.sde file and have the proper format for a connection file as defined by ESRI. If you specify a connection file, you do not need to specify the SERVER, INSTANCE, USER, PASSWORD (unless one was not given in the file), and VERSION.

### **Version**

#### Version Type

Specifies the versioning type of the database.

#### Transactional Version

The name of the SDE version to which the FME connects. If not specified, the FME connects to the version "sde.D-EFAULT". This field is only applicable when dealing with versioned tables or layers.

#### Historical Marker

The historical marker name of the dataset to be read (used in multi-versioned databases that have archiving enabled). Note that the version name is case-sensitive, and that the historical data is read-only.

#### Historical Date and Time

The specific date and time of the archived dataset to be read (used in multi-versioned databases that have

archiving enabled). Note that the date and time must be provided in the correct format for the underlying database (see ArcGIS help for more information), and that the historical data is read-only.

## Constraints

### Remove Schema Qualifier

Specifies whether to keep or remove the schema name prefix.

### Table List

Click the Browse button to select tables for import. You may only select this after you've completely specified the database connection.

After you click the Browse button, a search window appears while the system compiles a table list from the database. Once the table list appears, you can select one or more tables, and then click the OK button to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

### WHERE Clause

Enter any SQL where clause that constrains the attributes of the layers selected in the layer list (for example, NUM-LANES=2).

### Spatial Data Only

Specifies whether to only translate features that contain some kind of geometry.

### Resolve Domains

Specifies whether or not to resolve the domain code found in feature classes and tables into the domain value.

### Resolve Subtypes

Specifies whether or not to resolve the subtype field values found on feature classes and tables into the name of the actual subtype.

### Ignore Network Info

Specifies whether to read the network portion of network features. When checked, junctions will be read as points (geodb\_point) and edges will be read as lines (geodb\_polyline). Additionally, none of the network related attribution will be supplied on the features. Checking this option speeds up reading of network features significantly.

### Ignore Relationship Info

Determines whether to read relationship features present in a source dataset. When this parameter is checked, feature types containing simple relationships will be ignored, and feature types containing attributed relationships will be treated as non-spatial tables. When this parameter is unchecked, relationships will be read normally as either simple or attributed. The speed of reading features is vastly improved if relationships are ignored.

### Split Complex Edges

Determines whether complex edge features should be split. When split, complex edge features are read at the element level rather than the feature level. The element level represents the logical view of the geometric network. As a result, no network connectivity information is lost.

Note: For information on the attributes that each FME feature stores when this option is checked, please see the [ESRI Geodatabase Reader/Writer > Reader Overview > Reader Keywords > SPLIT\\_COMPLEX\\_EDGES](#).

### Split Multi-Part Annotations

Specifies whether or not to split multi-part annotations into separate features for each 'element' when reading. If checked, a single feature for each element (usually a word) in a multi-part annotation will be produced on reading, resulting in feature-specific attributes such as angle and text position being stored according to the location of each element. If the parameter is unchecked, multi-part annotations will be read normally, as a single feature storing a single set of attributes describing the positioning of the text.

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **ESRI Geodatabase ArcSDE Writer Parameters**

### **Database Connection**

#### Connection

**OS Authentication** provides the necessary information to connect to the SDE server, by validating the username and password through the operating system.

If you choose **Parameters** you will have to fill in the username and password fields.

If you choose **File**, you will have to provide the path to a connection file that will provide the information needed to connect to the ArcSDE server.

#### Server

Enter the ArcSDE server name.

#### Database

This parameter will default to sde, which is the dataset name you will use most often. Change the default name if required.

Note that if you're using using ArcSDE 3.x/8.x/9.x with Oracle, you don't have to change the default ArcSDE dataset name, since Oracle ignores this field.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Instance

This will usually be port:5151. Contact your System Administrator for details about your site.

#### Version

The name of the version to which features should be written (only applicable on multi-versioned databases). The version can only be changed if the transaction type is set to VERSIONING.

#### File

A connection file provides the necessary information to connect to the ArcSDE server. The connection file must be a \*.sde file and have the format defined by ESRI. If you specify a connection file, you do not need to specify the Server, Instance, User, Password (unless one was not given in the file), and Version. Otherwise, select Parameters and fill in the required fields.

#### Transaction Type

Indicates which transaction mechanism the Geodatabase writer should use. Within ArcGIS, there are currently two transaction mechanisms: edit sessions and (regular) transactions. An edit session corresponds to a long transaction. During an edit session, edits made by other users do not become visible until the edit session is ended. If a transaction does not complete successfully and the Geodatabase writer is using an edit session, then all the edits will be discarded.

Values:

- **VERSIONING:** Starts an edit session and then ends it when the translation is finished. This value should be used when writing to a versioned table in an Enterprise Geodatabase.
- **TRANSACTIONS:** Starts the (regular) transaction mechanism. This can be used only when writing to non-versioned tables that do not have custom behavior.
- **NONE:** No transaction mechanism is used. Then can be used only when writing to non-versioned tables that do not have custom behavior.

## Table Parameters

### Simplify Geometry

Simplifying geometries can be expensive. If checked, the geometry being written out is simplified (if it is currently a non-simple geometry).

For ArcGIS 9 only – if ArcGIS 8.x is installed and this is selected, geometries will not be simplified.

### X Origin

The coordinates of the X false origins for all feature classes and all feature datasets. This is used as an offset so that coordinate data is stored as positive integers, which allows a range from 0 to 2147483647 (so if the X origin is set below 0, then the maximum value will also drop, and vice versa). By default, the values for the false origins are set to 0. This is only used when creating new feature classes.

### Y Origin

The coordinates of the Y false origins for all feature classes and all feature datasets. This is used as an offset so that coordinate data is stored as positive integers, which allows a range from 0 to 2147483647 (so if the Y origin is set below 0, then the maximum value will also drop, and vice versa). By default, the values for the false origins are set to 0. This is only used when creating new feature classes.

### Scale

A scaling conversion factor from world units to integer system units for all feature classes and all feature datasets. This is used to specify the level of precision to keep when storing XY coordinates, since all coordinates are stored as integers. Depending on the scale, it changes the precision of the coordinates stored. For example, if you have the coordinate (5.354, 566.35) and you set the XY\_SCALE to be 100, then the coordinate stored will be (5.35, 566.35). The default value is 100. This is only used when creating new feature classes.

### Contains Z Values

Determines whether or not the dataset contains z coordinates. Valid values are Yes, No, or Auto Detect. The default is Auto Detect.

Because Geodatabase does not allow mixed 2D and 3D features in the same feature class, it is best to select YES if you have mixed dimensions. The 2D features will be forced to 3D.

When set to Auto Detect, the writer determines the dimension of the feature class by checking the dimension of the first feature headed for that feature class.

### Z Origin

The coordinates of the Z false origins for all feature classes and all feature datasets. This is used as an offset so that coordinate data is stored as positive integers, which allows a range from 0 to 2147483647 (so if the Z origin is set below 0, then the maximum value will also drop, and vice versa). By default, the values for the false origins

are set to 0. This is only used when creating new feature classes.

### Z Scale

A scaling conversion factor from world units to integer system units for all feature classes and all feature datasets. This is used to specify the level of precision to keep when storing Z coordinates, since all coordinates are stored as integers. Depending on the scale, it changes the precision of the coordinates stored. For example, if you have the coordinate (5.354, 566.35) and you set the Z\_SCALE to be 100, then the coordinate stored will be (5.35, 566.35). The default value is 100. This is only used when creating new feature classes.

### Grid 1 Size

This sets the global grid 1 size for the whole translation. For the Enterprise Geodatabase writer, the default is 1000. This directive is only used when creating new feature classes.

**Notes:** The values populated in the parameter box set values for writer directives and for feature type parameters. Since some feature type parameters have equivalent writer-level directives, then the parameter box value will be used in two places. The feature type parameters take precedence over writer directives. The only time the writer-level directives will be used is when there is no equivalent feature type parameter, or the parameter was not supplied.

### **Format Notes**

This format is not available with FME Base Edition.

## **ESRI Geodatabase ArcSDE Raster Dataset Reader Parameters**

### **Database Connection**

#### Connection

OS Authentication provides the necessary information to connect to the ESRI ArcSDE server by validating the username and password through the operating system.

If you choose **Parameters**, you will have to fill in the username and password fields.

If you choose **Connection File**, you will have to provide a connection file that contains the necessary information to connect to the ESRI ArcSDE server.

#### Server

Enter the ESRI ArcSDE server name.

#### Database

Enter the name of the database you want to use.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Instance

This will usually be port:5151. Contact your System Administrator to confirm this.

#### File

Enter or select the name of the database file.

### **Constraints**

#### Table List

Click the Browse button to select tables to extract.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **ESRI Geodatabase ArcSDE Raster Dataset Writer Parameters**

### **Database Connection**

#### Connection

OS Authentication provides the necessary information to connect to the ESRI ArcSDE server by validating the username and password through the operating system.

If you choose **Parameters**, you will have to fill in the username and password fields.

If you choose **Connection File**, you will have to provide a connection file that contains the necessary information to connect to the ESRI ArcSDE server.

#### Server

Enter the ESRI ArcSDE server name.

#### Database

Enter the name of the database you want to use.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Instance

This will usually be port:5151. Contact your System Administrator to confirm this.

#### File

Enter or select the name of the database file.

## **ESRI Geodatabase File-based Raster Dataset Reader Parameters**

### **Geodatabase Source**

#### Source ESRI Geodatabase (File-based) File

Select the ESRI Geodatabase source file.

### **Constraints**

#### Table List

Click the Browse button to select tables to extract.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ESRI Geodatabase File-based Raster Dataset Writer Parameters***

### **Writer Parameters**

#### Overwrite Geodatabase

If checked, deletes the existing database.

## **ESRI Geodatabase XML Reader Parameters**

### **Database Connection**

#### Geodatabase

The file from which the data is to be read.

### **Constraints**

#### Table List

Click the Browse button to select tables for export. You may only select this after you've completely specified the database connection.

After you click the Browse button, a search window appears while the system compiles a table list from the database. Once the table list appears, you can select one or more tables, and then click the OK button to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

Enter any SQL where clause that constrains the attributes of the layers selected in the layer list (for example, NUM-LANES=2).

#### Spatial Data Only

Specifies whether to only translate features that contain some kind of geometry.

#### Resolve Domains

Specifies whether or not to resolve the domain code found in feature classes and tables into the domain value.

#### Resolve Subtypes

Specifies whether or not to resolve the subtype field values found on feature classes and tables into the name of the actual subtype.

#### Ignore Network Info

Specifies whether to read the network portion of network features. When checked, junctions will be read as points (geodb\_point) and edges will be read as lines (geodb\_polyline). Additionally, none of the network related attribution will be supplied on the features. Checking this option speeds up reading of network features significantly.

#### Ignore Relationship Info

Determines whether to read relationship features present in a source dataset. When this parameter is checked, feature types containing simple relationships will be ignored, and feature types containing attributed relationships will be treated as non-spatial tables. When this parameter is unchecked, relationships will be read normally as either simple or attributed. The speed of reading features is vastly improved if relationships are ignored.

#### Split Complex Edges

Determines whether complex edge features should be split. When split, complex edge features are read at the element level rather than the feature level. The element level represents the logical view of the geometric network. As a result, no network connectivity information is lost.

For information on the attributes that each FME feature stores when this option is checked, please see the ESRI Geodatabase Reader/Writer > Reader Overview > Reader Keywords > SPLIT\_COMPLEX\_EDGES.

### Split Multi-Part Annotations

Specifies whether or not to split multi-part annotations into separate features for each "element" when reading. If this box is checked, a single feature for each element (usually a word) in a multi-part annotation will be produced on reading, resulting in feature-specific attributes such as angle and text position being stored according to the location of each element. If left unchecked, multi-part annotations will be read normally, as a single feature storing a single set of attributes describing the positioning of the text.

### Schema Attributes

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### Search Envelope

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

### **Format Notes**

This format is not available with FME Base Edition.

You must have access to a Geodatabase to access this format.

## ***ESRI HDR Raw Raster Reader Parameters***

### **Dataset Parameters**

#### Group by Filename

**No (default):** The only feature type this reader will use is the reader type name, which in this case is ESRIHDR.

**Yes:** The feature type of each dataset is the filename (without the path or the extension) of the dataset.

### **Attribute Names**

#### Use Lower Case

Specifies whether the reader should force attribute names to lowercase. If set to no, it will allow mixed case; otherwise, attribute names will be made lowercase.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **ESRI JavaScript Object Notation (ESRIJSON) Reader Parameters**

### **URL Dataset Parameters**

#### Delete downloaded file

If you select this option, when the reader has finished reading downloaded ESRIJSON text, it will delete the local file that the text was downloaded to.

### **Proxy Parameters**

#### HTTP Proxy URL

Enter a proxy server that the reader will use when accessing a URL dataset (for example, www.someproxy.net).

#### HTTP Proxy Port

Enter the port number of the proxy server indicated above (for example, 8080).

This field is ignored if the HTTP Proxy URL has not been specified.

#### HTTP Proxy Username

Enter the username to use when accessing a password-protected proxy server.

This field is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Password or HTTP Proxy Authentication Method fields.

#### HTTP Proxy Password

Enter the password to use when accessing a password-protected proxy server.

This field is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Username or HTTP Proxy Authentication Method fields.

#### HTTP Proxy Authentication Method

Specify the authentication method (either Basic or Digest) to use when accessing a password-protected proxy server.

This field is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Username or HTTP Proxy Password fields.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input

features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ESRI JavaScript Object Notation (ESRIJSON) Writer Parameters***

### **Writer Parameters**

#### **Output Character Set**

The character set encoding in which the GeoJSON text will be written. If no character set is specified, the GeoJSON text will be written in the UTF-8 character set.

#### **Byte Order Marker**

Specifies whether or not the GeoJSON writer should preface the JSON text with a byte order marker to indicate the endianness of the Unicode text. The default value is No.

#### **Write 'null' for attributes with no value**

Specifies whether or not the object containing an FME feature's attributes should contain a key for attributes for which the feature has no value. If the value is No, then the attribute's object will only contain keys for which the FME feature has an attribute value. If the value is Yes, then the output JSON objects will contain keys for every attribute in the feature type schema, and any keys for which an FME feature has no attribute value will have a null JSON value. The default value is No.

### **JSONP**

#### **JSONP Function Name**

Specifies the JSONP javascript function name that the user wants to wrap the GeoJSON file with. JSONP (JSON with Padding) is developed as a standard for grabbing GeoJSON from external domains, that works well with AJAX calls.

The default value is null. If no value is set or the default is set, then the GeoJSON writer will output a GeoJSON file without the JSONP padding. (optional)

## ***ESRI Mapping File Specification for DWG/DXF (MSD) Reader Parameters***

### **Blocks**

#### Expand Blocks into Entities

Check the Expand Blocks Into Entities box if you want to explode blocks and return the entities that form the components of the block as separate features.

When the reader resolves blocks, it outputs a feature for each of the entities that are part of the block definition. The original insert is not output. This results in the full graphical representation of the block transferred through FME, but the exact insertion point of the block is lost.

#### Use Block Header Layer for Components

Unchecking the Use Block Header Layer for Components box will cause the block members to appear on their respective layers.

If block contains "Attribute" then each instance of "Attribute" in the block entity will be returned as "Text" entity along with a non-spatial feature containing information about that "Attribute" definition and its value for that block.

If the exact insertion point of the block is desired, then block resolution should be turned off and the insert entities for each block should be translated into point features in the output system.

#### Store Insert Location on Components

If you check Store Insert Location on Components, the reader adds the insert point locations as attributes to the block component entities when resolving (or exploding) inserts entities. This option is generally not checked for AutoCAD-to-AutoCAD translations.

When the reader resolves blocks, it outputs a feature for each of the AutoCAD entities that are part of the block definition. The original insert is not output, but this directive allows the insert location to still be represented.

This results in each block member feature having the following attributes: autocad\_block\_insert\_[xyz].

### **Entity Options**

#### Read Visible Attributes as Text Entities

Specifies whether the reader should return visible attributes as separate text features or whether they should be returned as attributes of an insert feature. When this option is checked, then each visible attribute is returned as a single text feature.

#### Explode MText Entities

Specifies whether the reader will explode the mtext entities into separate text entities. When exploding, the resulting text features represent fragments of text with the same mtext properties such as style and location. When not exploding, the mtext entity will be read as a single text feature.

#### Read Polylines as 2.5D

Determines whether polylines should have their elevation attribute treated as a Z coordinate (applies to light-weight polylines and 2D polylines).

### **Paper Space**

#### Read Paper Space

Instructs FME to also read the entities from paper space. By default, FME only reads the entities from model space.

## User Coordinate System

### Ignore UCS

Instructs FME to ignore the user-defined coordinate system of the file being read. By default, FME applies the UCS when reading the coordinate data.

## Apply World File

### Apply World File

Use this parameter when you have an ESRI World file (\*.wld) that you want FME to use when determining the coordinates for features in your dataset. When this box is checked, FME will search the directory of the dataset for a file with the same name as your dataset but with a .wld extension. If it cannot find a file with that name, it will then look for the file "esri\_cad.wld" within the dataset directory. If either of those files exists, then FME will use the information in the files to translate the coordinates of the features in the dataset to their new geospatial coordinates. If the files cannot be found, then the translation will continue, using the coordinate information found in the dataset, without performing any additional transformation.

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ESRI Mapping File Specification for DWG/DXF (MSD) Writer Parameters***

### **File Contents**

#### AutoCAD Version

Specifies the AutoCAD release the output file will be compatible with.

#### Template File

Specifies the name of the existing AutoCAD DXF or DWG file that contains linetype, layer, shape header, block definitions, and a codepage to be copied to the destination AutoCAD file. Any MSD feature classes in the template file will not be copied.

Note: Many AutoCAD users refer to the template files as prototype files.

## **ESRI PC ArcInfo Coverage Reader Parameters**

### **Feature Assembly Mode**

#### Attach Attributes and Build Polygons

Check this box to enable all other settings box options. This option switches the reader between "raw" and "normal" modes. Normally the various bits and pieces of ArcInfo coverages (E00, binary, or PC binary) are combined together to make wholly formed features, complete with attributes and resolved topology, but there are very rare special cases where it is useful to consider the pieces of the features as separate entities. This is mostly designed for performing ArcInfo-to-ArcInfo translations, where some simple manipulation of the feature's coordinates is being performed along the way.

### **Text Curves**

Defines how the reader handles text elements that follow a splined curve in ArcInfo. In the past, the FME has simply drawn a straight line from the first point of the curve to the last point, and placed the text along that line. These selections allow you to change the FME's interpretation of curved text features.

#### Follow

Spaces the characters along the original curve, and generates a separate character for each (non-whitespace) character of the text (the default).

#### Fit

Tells FME to evenly space out the characters of the text along the curve, so that the left edge of the first character is on the first point of the curve, and the right edge of the last character is on the last point.

#### Ignore

Reverts FME to its traditional behavior.

### **Optional Feature Types**

#### Extract Bounds

ArcInfo coverages typically include an info file named BND, which defines the extents of the coverage. FME will normally ignore the contents of this file. If Extract Bounds is checked, FME will create a single feature representing the coverage extent information.

#### Extract Tics

ArcInfo coverages typically include an info file named TIC, which defines the tic points for the coverage. FME will normally ignore the contents of this file. If Extract Tics is checked, FME will create a feature for each TIC point.

#### Generate Node Features

Traditionally the ArcInfo reader reads the NAT table and outputs the NODE attributes as a plain set of attributes. If this box is checked, the endpoints of the ARC features are turned into NODE features, which are then joined with the NAT table attributes to provide fully formed point features.

## ***ESRI PC ArcInfo Coverage Writer Parameters***

### Coverage Precision

Select single or double coverage precision to set the precision of the output Uncompressed E00 coverage.

### Linear Topology

If you select Create, the writer will first create a line-node topology when writing lines. Otherwise, the writer will bypass that step.

## **ESRI Personal Geodatabase MDB Reader Parameters**

### **Database Connection**

#### Geodatabase

The file from which the data is to be read.

### **Constraints**

#### Table List

Click this button to select tables for export. You must have a personal database to browse.

After you click the Browse button, a search window appears while the system compiles a table list from the database. Once the table list appears, you can select one or more tables, and then click the OK button to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

Enter any SQL where clause that constrains the attributes of the layers selected in the layer list (for example, NUMLANES=2).

#### Spatial Data Only

Specifies whether to only translate features that contain some kind of geometry.

#### Resolve Domains

Specifies whether or not to resolve the domain code found in feature classes and tables into the domain value.

#### Resolve Subtypes

Specifies whether or not to resolve the subtype field values found on feature classes and tables into the name of the actual subtype.

You can speed up translations involving the Geodatabase Reader by not resolving subtypes and coded value domains. These operations add extra processing to each row of tables and feature classes that contain subtypes or coded value domains.

#### Ignore Network Info

Specifies whether to read the network portion of network features. When checked, junctions will be read as points (geodb\_point) and edges will be read as lines (geodb\_polyline). Additionally, none of the network related attribution will be supplied on the features. Checking this option speeds up reading of network features significantly.

#### Ignore Relationship Info

Determines whether to read relationship features present in a source dataset. When this parameter is checked, feature types containing simple relationships will be ignored, and feature types containing attributed relationships will be treated as non-spatial tables. When this parameter is unchecked, relationships will be read normally as either simple or attributed. The speed of reading features is vastly improved if relationships are ignored.

#### Split Complex Edges

Determines whether complex edge features should be split. When split, complex edge features are read at the element level rather than the feature level. The element level represents the logical view of the geometric network.

As a result, no network connectivity information is lost.

For information on the attributes that each FME feature stores when this option is checked, please see the ESRI Geodatabase Reader/Writer > Reader Overview > Reader Keywords > SPLIT\_COMPLEX\_EDGES.

### Split Multi Part Annotations

Specifies whether or not to split multi-part annotations into separate features for each "element" when reading. If checked, a single feature for each element (usually a word) in a multi-part annotation will be produced on reading, resulting in feature-specific attributes such as angle and text position being stored according to the location of each element. If left unchecked, multi-part annotations will be read normally, as a single feature storing a single set of attributes describing the positioning of the text.

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## Format Notes

This format is not available with FME Base Edition.

## **ESRI Personal Geodatabase MDB Writer Parameters**

### **General Parameters**

#### Overwrite Geodatabase

If checked, deletes the existing database.

#### Transaction Type

Indicates which transaction mechanism the Geodatabase writer should use. Within ArcGIS, there are currently two transaction mechanisms: edit sessions and (regular) transactions. An edit session corresponds to a long transaction. During an edit session, edits made by other users do not become visible until the edit session is ended. If a transaction does not complete successfully and the Geodatabase writer is using an edit session, then all the edits will be discarded.

- EDIT\_SESSION: Starts an edit session and then ends it when the translation is finished. This value should be used when edits are made to tables that have custom behavior associated with them.
- TRANSACTIONS: Starts the (regular) transaction mechanism. This can be used only when writing to non-versioned tables that do not have custom behavior.
- NONE: No transaction mechanism is used. This can be used only when writing to non-versioned tables that do not have custom behavior.

### **Table Parameters**

#### Simplify Geometry

Simplifying geometries can be expensive. If checked, the geometry being written out is simplified (if it is currently a non-simple geometry).

For ArcGIS 9 only – if ArcGIS 8.x is installed and this is selected, geometries will not be simplified.

#### X Origin

The X-coordinate of the origin for all feature classes (individual origins can be set – see Geodatabase Table Representation in the FME Readers and Writers manual) and all feature datasets. This is used as an offset because coordinate data is stored as positive integers, relative to the origin, ranging from 0 to 2147483647 (so if the X origin is set below 0, then the maximum value will also drop, and vice versa). The value must be a real number. The default is 0.

#### Y Origin

Is the same as the X Origin except this it is for Y coordinate values.

#### Scale

A scaling conversion factor from world units to integer system units for all feature classes (individual scales can be set – see Geodatabase Table Representation in the FME Readers and Writers manual) and all feature datasets. The default value is 100 when writing to an Enterprise Geodatabase and 0 when writing to a Personal Geodatabase.

This directive is only used when creating new feature classes. It is not used by the File-based Geodatabase writer as default values are used for the domain and resolution.

#### Contains Z Values

Determines whether or not the dataset contains z coordinates. Valid values are Yes, No, or Auto Detect. The

default is Auto Detect.

Because Geodatabase does not allow mixed 2D and 3D features in the same feature class, it is best to select YES if you have mixed dimensions. The 2D features will be forced to 3D.

When set to Auto Detect, the writer determines the dimension of the feature class by checking the dimension of the first feature headed for that feature class.

### Z Origin

Is the same as the other origins, except it is for Z coordinate values.

### Z Scale

This is the same as X and Y Scale parameters, except it is for Z coordinates. The default value is 100 when writing to an Enterprise Geodatabase and 0 when writing to a Personal Geodatabase.

This directive is only used when creating new feature classes. It is not used by the File-based Geodatabase writer as default values are used for the domain and resolution.

### Grid 1 Size

This sets the global grid 1 size for the whole translation. It may be overridden if the DEF line has the setting for GRID{1} parameter. For the Enterprise Geodatabase writer, the default is 1000 and for the Personal Geodatabase and File-based Geodatabase writers, the default is 0. This directive is only used when creating new feature classes.

Note: The values populated in the settings box set the values for writer directives and for feature type parameters. Since some feature type parameters have equivalent writer-level directives, the settings box value will be used in two places. The feature type parameters take precedence over writer directives. The only time the writer-level directives will be used is when there is no equivalent feature type parameter, or the parameter was not supplied.

### **Format Notes**

This format is not available with FME Base Edition.

## **ESRI Shape Reader Parameters**

### **Attribute Names**

#### Use Upper Case

This option specifies whether the writer should change attribute names to uppercase text. If the box is unchecked, mixed-case attribute names will be allowed. The default value is yes.

Note: Since this directive is used when generating workspaces and mapping files, it is not editable within Workbench after the workspace has been generated.

### **File Contents**

#### Character Encoding

This optional specification controls which character encoding is used to interpret text attributes from the shapefile. If the value is not set, then the character encoding will be automatically detected from the source shapefile. If the value is set, it will take precedence over the automatically detected character encoding.

This parameter is useful when the character encoding information stored in the shapefile is missing or incorrect.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ESRI Shape Writer Parameters***

### **Shape File Type**

#### 2D (Arcview 3.0)

Shapefiles produced will contain two-dimensional coordinate geometry and will be compatible with ArcView 3 and earlier versions, and all versions of ArcExplorer.

#### 2D + Measures

Shapefiles produced will contain two-dimensional coordinate geometry and measures. They can be read by ArcView 3.1 and later versions.

#### 3D + Measures

Shapefiles produced will contain three-dimensional coordinate geometry and measures. They can be read by ArcView 3.1 and later versions.

### **Attribute Names**

#### Use Upper Case

This option specifies whether the writer should change attribute names to uppercase text. If the box is unchecked, mixed-case attribute names will be allowed. The default value is yes.

Note: Since this directive is used when generating workspaces and mapping files, it is not editable within Workbench after the workspace has been generated.

### **Surface and Solid Storage**

#### Multipatch

The writer will write out input 3D surfaces and solids as shape\_multipatch to preserve their original structure.

#### PolygonZ

The writer will write out input 3D surfaces and solids as shape\_polygonz to break them down into polygon components.

## ***Extensible Markup Language (XML) Reader Parameters***

### **Reader Parameters**

#### Select Configuration Type

Specifies whether to read the XML dataset using an xfMap document or to use an XRS document.

#### XML Map File

Specifies the location of the xfMap document. Multiple xfMaps may be specified here.

#### Feature Paths - xfMap match expressions

This option allows you to specify name-value pairs that become accessible in an xfMap with the <keyword> expression wherever expression sequences are allowed. See the xfMap <keyword> expression section documentation for more information about its usage.

This specification may occur a multiple number of times in the FME mapping file for multiple name-value pairs.

#### XRS File

Specifies the location of an XRS document. An XRS (XML Reader Switch) document allows the XML Reader to automatically configure itself to read "known" XML datasets without the need to specify the appropriate xfMaps in advance.

## **Facet XDR Reader Parameters**

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***FalconView File Reader Parameters***

### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

## ***FDO Providers (Autodesk 2008) Reader Parameters***

### **Provider Name**

Specifies the name of the FDO Provider used to establish a connection with an FDO Datastore.

## ***FDO Providers (Autodesk 2008) Writer Parameters***

### **Provider Name**

Specifies the name of the FDO Provider through which a connection to an FDO Datastore can be established.

## ***FDO Providers (Autodesk 2009) Reader Parameters***

### **Provider Name**

Specifies the name of the FDO Provider used to establish a connection with an FDO Datastore.

## ***FDO Providers (Autodesk 2009) Writer Parameters***

### Provider Name

Specifies the name of the FDO Provider through which a connection to an FDO Datastore can be established.

## ***FDO Providers (Autodesk 2010) Reader Parameters***

### **Provider Name**

Specifies the name of the FDO Provider used to establish a connection with an FDO Datastore.

## ***FDO Providers (Autodesk 2010) Writer Parameters***

### Provider Name

Specifies the name of the FDO Provider through which a connection to an FDO Datastore can be established.

## ***FDO Providers (Autodesk 2011) Reader Parameters***

### **Provider Name**

Specifies the name of the FDO Provider used to establish a connection with an FDO Datastore.

## ***FDO Providers (Autodesk 2011) Writer Parameters***

### **Provider Name**

Specifies the name of the FDO Provider through which a connection to an FDO Datastore can be established.

## ***FDO Providers (FME) Reader Parameters***

### Provider Name

Specifies the name of the FDO Provider used to establish a connection with an FDO Datastore.

## ***FDO Providers (FME) Writer Parameters***

### Provider Name

Specifies the name of the FDO Provider through which a connection to an FDO Datastore can be established.

## ***File Copy Writer Parameters***

### **Copy Parameters**

#### File Operation

Specifies the operation that will be performed on the input files.

#### Overwrite Existing File

Specifies whether to automatically replace files in the destination directory if they already exist.

#### Copy Source Directory

If the source file location is a directory, this indicates whether to only copy the contents of the source directory to the destination directory, or whether to copy the directory name in addition to the contents. Leaving the default parameter set to No will copy only the contents of the source directory.

#### Copy Subdirectories

If the source file location is a directory, this specifies whether to additionally copy any subdirectories and their contents to the destination directory.

### **FME Server Settings**

#### Mime Type

This setting is only of interest to users who are authoring for FME Server's streaming service and would like to be able to create HTML files on the fly for streaming into the browser (as opposed to streaming plain text back to the browser).

By adjusting this setting, the user is communicating to and storing in the workspace information on how the text file will be streamed back if it is used in the streaming service.

## ***FINDER (OpenSpirit) Reader Parameters***

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be read. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to read from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when read.

Custom unit systems are not currently supported.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Finder 9 (OpenSpirit) Writer Parameters**

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be written. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to write from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when written.

Custom unit systems are not currently supported.

## **FME Feature Store (FFS) Reader Parameters**

### **Reader Parameters**

#### Password

This password is used to decrypt the source dataset. It must exactly match the passphrase that was used to encrypt the dataset when it was created.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***FME Feature Store (FFS) Writer Parameters***

### **Output Parameters**

#### Create Spatial Index

If checked, Create Index creates and outputs a spatial index for each feature store. The spatial index has the same base name as the FFS file, but will have an .fsi extension. Spatial Indexes are needed if the FFS file is later used as the source for spatial queries by the FFS reader.

#### Compression Level

Reduces the size of the output dataset. A lower compression level will result in faster operation for both reading and writing while a higher compression level will result in smaller file sizes.

#### Byte Order

Indicates if the resulting file should be optimized for either Little Endian or Big Endian machines. (For example, the architecture of machines running Microsoft Windows is little endian, while the Solaris architecture is big endian.) Native means the file should be optimized for the type of machine on which it is currently running.

#### Password

This specification is used to encrypt the output dataset for additional security. This exact passphrase must be used to decrypt this dataset when it is read again.

If this is not used when writing the output dataset, it is not necessary to specify it when reading it in again.

## ***FME Server Repository Reader Parameters***

### **Repository Settings**

This dialog allows you to specify the information required to log into your running FME Server.

#### Host

Enter a hostname (the name of the FME Server).

#### Port

This is determined by your System Administrator. The default is 7071.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## ***FME Server Repository Writer Parameters***

### **Server**

This dialog allows you to specify the information required to log into your running FME Server.

#### Host

Enter a hostname (the name of the FME Server).

#### Port

This is determined by your System Administrator. The default is 7071.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Additional Parameters**

#### Writer Behavior

The Writer behavior defines the action that will be taken when a repository, item or resource already exists:

- Append: If a repository already exists, it will try to add only the new items. If an item or resource already exists, it will be skipped.
- Merge: If a repository already exists, it will add new items and update those that already exist. It will also update a resource if it already exists.
- Drop: If a repository already exists, it will be dropped. Then it will add the new items and resources.

## ***FME Server Stream Reader Parameters***

### **Connection Type - Direct Connection**

#### Host Name

Enter a hostname (the name of the FME Server).

#### Port Number

This is determined by your System Administrator. The default is 7071.

### **Connection Type – Web Connection**

#### URL

You can also enter a URL to access FME Server. You may need to contact your System Administrator for information on host names or URLs.

### **Credentials**

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

## **Genasys GenaMap Reader Parameters**

### **Data Storage Mode**

#### Data in Big Endian

Allows the reader to specify whether the data is in big endian or little endian.

When the option is checked, the GenaMap reader will read the data in as big endian. When this option is not checked, the GenaMap reader will translate the incoming data as little endian.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Generic (Any Format) Reader Parameters**

The Generic reader acts as a wrapper for the true reader which will be used when the translation is done. At run time, once the actual reader is known, the Generic reader will do its best to represent the intention of the translation in the chosen input format.

The Generic reader takes a file or multiple files, directory, URL, or database name as the input dataset. If the format that is ultimately targeted requires an input directory, the Generic reader will turn the input filename into a directory by removing the file name part of the path.

Because the format it will read from can be, and is by default, published, workspace authors who want to set up specific dataflows for a particular format can use the ParameterFetcher transformer to retrieve the name of the format that actually is being read to, and then potentially route features to other transformers using this value.

The Generic reader simply reads the features using the underlying reader whose name is provided in the Input Format parameter.

### **Input**

#### **Input Format**

This specifies the FME short name of the format that will be used at runtime to read the data from. Format short names are documented as part of each reader's documentation.

If no valid name is specified, then the reader will try to guess the name from the filename extension of the source dataset (if the dataset is a file).

## ***Generic (Any Format) Writer Parameters***

The Generic Writer allows FME to reroute output to any FME writer dynamically when a translation is run. The name of the true writer is supplied as an argument to the Generic Writer.

The Generic Writer allows translations and transformations to be completely specified independent of output format, and is very useful for solving problems where the schemas and transformations are known at design time, but the output format is not.

### **Output**

#### **Output Format**

Specifies the name of the format that will be used at runtime to output the data.

## ***GeoConcept Map Reader Parameters***

### **Dataset**

#### Dataset

The value for this field is the path to the file to be read.

### **Constraints**

#### Table List

Enter (or browse for) the name(s) of specific database table(s) to read from.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **GeoConcept Map Writer Parameters**

### **Template Map File**

#### Template Map File

Specifies the pathname to the map file that will be used as a template for the destination map. The precision, extents, and any layer information from the template map will be preserved, but class definitions will not.

Since the template map sets the precision of the coordinates, it is important to select a template map with an appropriate precision. There are two possible problems to guard against. The first is when the precision is too low, and the geometry of lines and polygons is affected by this lack of precision. For example, given a line with points at coordinates (1.001, 4.002) and (1.05, 4.082), but a precision of only .1 will result in a map with a line-type object, but whose coordinates are (1.0, 4.0) and (1.0, 4.0); i.e. the same point! In particular, polygons can suddenly change shape radically, or lose all area if they contain points that differ by a value smaller than the precision of the map.

The other problem that you should guard against is setting the precision too high. GeoConcept maps store all coordinates as integers, multiplying coordinates by powers of ten in order to retain the fractional elements of coordinates. E.g. a coordinate of 445533.023, when stored in a map with precision of 0.0001, will store this coordinate as the integer 4,455,330,230. On a 32 bit machine, the maximum value for an integer is 2,147,483,647. It is thus easy to see that with extremely high precision maps, it is possible for coordinates at the high end of the ranges of latitudes and longitudes can be greater than this value. If this occurs, the translation will fail, and the log file will indicate that the precision of the map is too high for the given coordinates.

### **Geometry**

#### Subclass Geometry Type

The value of this parameter determines whether the constructed subclass is 2D or 3D. If set to Auto Detect (the default), the subclass will be determined by the geometry of the first feature read.

In GeoConcept, a subclass is either 2D, 3D, or 3D Mono. The latter is used only for lines and polygons, and it means a 3D line or polygon in which the entire geometry is at some specific height/altitude.

A 3D Mono geometry takes the Z-value from the first coordinate and stores the rest of the coordinates as 2D with the understanding that they are really 3D with the same Z-value as the first coordinate. It is impossible to write a 3D geometry to a 2D subclass, where the Z-value is retained. However, it is possible to write a 2D geometry to a 3D subclass (where the Z-value is undefined).

## **GeoFrame 4 (OpenSpirit) Reader Parameters**

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be read. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to read from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when read.

Custom unit systems are not currently supported.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **GeoFrame 4 (OpenSpirit) Writer Parameters**

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be written. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to write from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when written.

Custom unit systems are not currently supported.

## **Geographic Data Files (GDF) Reader Parameters**

### **Specification Variant**

This indicates which GDF specification will be used when creating the output GDF file. Several GDF data producers do not strictly follow the official CEN GDF 3.0 standard, but rather follow their own slightly modified version of these standards. If you know the specification your file uses, you can indicate it here. If not, FME will make its best effort to determine the specification.

#### Best Guess

Tells the GDF reader to use an intelligent guess as to which specification to use, based on the header of the GDF file it is overwriting, if any.

#### CEN 3.0

Means that the official CEN 3.0 specification will be used.

#### NAVTEQ

Indicates that the NavTech variant of the GDF specification should be used.

#### TeleAtlas

Indicates that the TeleAtlas variant of the GDF specification should be used.

### **Geometry Completion**

Indicates the level up to which the user wants to complete the geometry. All levels above this will have the geometry linked to the features indirectly. All levels with complete geometry will have the geometry explicitly on each feature directly.

#### Usage Examples

When FME reads GDF files, it requires a lot of effort to store and reference all the features between layers. For example, to get the geometry of a single level 2 feature, first the FME must locate all the level 1 features that are linked to it. Then it has to locate all the level 0 features that are linked to each Level 1 feature. Then it has to locate all the XYZ features that are linked to every Level 0 feature. Finally it has to put all that geometry together and process it to generate the geometry for the single level 2 feature. It is much easier if the features were output with no geometry but instead kept attributes that indicated to which other features it was linked.

For this reason, there is an option of choosing whether features produced by the reader have the "links" on them, or if the FME should go through all the effort to complete the links and form the geometry on each feature. There is also the option of specifying on which levels the geometry should be completed, and which levels will be left as "linked" to lower-level features.

#### Usage Example 1: Selecting 'Level 1'

For example, if you were only interested in the level 1 features of a GDF dataset (you were going to delete or ignore the level 2 features) then there would be no reason for FME to complete the geometry on level 2 features. You could choose to complete only the geometry on level 1 features and leave the level 2 features as linked (since you would be deleting them anyway).

#### Usage Example 2: Selecting 'None'

Another example might be if you are planning to import features into a spatial database. In your new model, you

would like to keep the links present so that if you edited and modified the geometry of a level 0 feature, the geometry of all level 1 and 2 features that link to it would immediately change. In this situation, you would select NONE for geometry completion, and just import all the features into your database as linked.

### Usage Example 3: Selecting 'Level 2'

Of course, if you are translating GDF to any of the more common file-based formats for general viewing and usage, completing the geometry all the way up to level 2 is probably the most reasonable choice. Determines if geometry links are resolved to build geometry on higher level features.

## Attributes

### Attribute Completion

Indicates whether to complete the attribute links for each feature. If checked, all features will have their attributes explicitly appear on the features directly. If not checked, all features will have their attribute information remain in separate tables joined with link values.

The issues surrounding attribute completion when reading GDF is similar to geometry completion. Natively, a feature's attributes are referenced through a linking mechanism and extra effort is needed if it is desired that the features read from GDF know all their attributes directly.

Therefore there is an option of choosing between whether features produced by the reader have the "links" on them or if FME should go through all the effort to complete the links and supply the attributes directly on each feature as they are read. Reasoning as to whether or not to choose attribute completion is similar to that outlined for geometry completion.

### Output Merged Records

Indicates if the user wants attribute features that have been used in attribute completion to be output by the reader. If this box is checked, then features that primarily carry attribute values (for example GDF Name records) will be output. This parameter has no effect if the Attribute Completion setting is not checked.

## Code

### Code Lookup

Indicates whether known codes of attribute names are replaced with their actual expanded name for each feature. If selected, all features will have the code values of their attribute names replaced. For example, an attribute **ON** will be renamed to **Official Name**. If this option is not enabled, all features will have their attribute names left as the original codes.

### Code Value Lookup

Indicates whether known codes of attributes are replaced with their actual expanded values for each feature. If selected, all features will have the code values of their attributes replaced. For example, an attribute Vehicle Type with the value 16 will have that value replaced by Taxi. If this option is not enabled, all features will have their attribute values left as the original codes.

## Metadata Options

### Ignore Header Metadata Records

Indicates whether the reader should to ignore the FIELDEFREC (03) and RECDEFREC (04) records in the GDF file, or

parse and honor them. If you check this option, all FIELDEFREC (03) records and RECDEFREC (04) in the file will be ignored when reading. This is useful for reading files with corrupt metadata. Without ignoring these corrupt lines, the file could not be read correctly. However, if the dataset is encoded in a schema different from the default one provided by the reader and the FIELDEFREC (03) and RECDEFREC (04) records for that dataset are corrupted, it will be impossible for the reader to read the dataset.

## **Multiple Value Separator**

### Multiple Value Separator

Indicates which characters will separate the values when one attribute has more than one value.

For instance, the Official Name of an Order 1 Administrative Area (Country) may have two values: Japan and Nippon. If the ||| separator is used, the value for Official Name will become Japan|||Nippon. It is useful to have known strings as separators when automatically splitting these strings during future processing.

## ***Geographic Data Management System (GDMS) Reader Parameters***

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Geographic JavaScript Object Notation (GeoJSON) Reader Parameters**

### **URL Dataset Parameters**

#### Delete downloaded file

If this parameter is checked, then when the reader has finished reading downloaded GeoJSON text, it will delete the file that the text was downloaded to. This field is only meaningful if the dataset is a URL.

### **Proxy Settings**

#### HTTP Proxy URL

Enter a proxy server that the reader will use when accessing a URL dataset (for example, www.someproxy.net).

#### HTTP Proxy Port

Enter the port number of the proxy server indicated above (for example, 8080).

This field is ignored if the HTTP Proxy URL has not been specified.

#### HTTP Proxy Username

Enter the username to use when accessing a password-protected proxy server.

This field is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Password or HTTP Proxy Authentication Method fields.

#### HTTP Proxy Password

Enter the password to use when accessing a password-protected proxy server.

This field is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Username or HTTP Proxy Authentication Method fields.

#### HTTP Proxy Authentication Method

Specify the authentication method (either Basic or Digest) to use when accessing a password-protected proxy server.

This field is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Username or HTTP Proxy Password fields.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input

features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Geographic JavaScript Object Notation (GeoJSON) Writer Parameters**

### **Writer Parameters**

#### Output Character Set

The character set encoding in which the GeoJSON text will be written. If no character set is specified, the GeoJSON text will be written in the UTF-8 character set.

#### Byte Order Marker

Specifies whether or not the GeoJSON writer should preface the JSON text with a byte order marker to indicate the endianness of the Unicode text. The default value is No.

#### Write 'null' for attributes with no value

Specifies whether or not the object containing an FME feature's attributes should contain a key for attributes for which the feature has no value. If the value is No, then the attribute's object will only contain keys for which the FME feature has an attribute value. If the value is Yes, then the output JSON objects will contain keys for every attribute in the feature type schema, and any keys for which an FME feature has no attribute value will have a null JSON value. The default value is No.

#### Fully Conform to the GeoJSON Grammar

This determines whether output will adhere strictly to the GeoJSON grammar. An array will be used as the outermost element to represent multiple layers; a single layer will not be contained by an array.

### **JSONP**

#### JSONP Function Name

Specifies the JSONP javascript function name that the user wants to wrap the GeoJSON file with. JSONP (JSON with Padding) is developed as a standard for grabbing GeoJSON from external domains, that works well with AJAX calls.

The default value is null. If no value is set or the default is set, then the GeoJSON writer will output a GeoJSON file without the JSONP padding. (optional)

## **Geography Markup Language (GML) Reader Parameters**

### **Proxy Server**

#### Use Proxy Server

Specifies whether or not to use a proxy server for network fetches.

#### Proxy Address

Specify an address in the format `www.someproxy.net`

#### Port

Specify a port number.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Authentication Method

Specifies the authentication method when accessing a password-protected proxy server. Valid selections are "Basic", "Digest" and "NTLM". The default value is Basic.

### **Feature Properties**

#### Read Predefined Properties

Specifies whether the default and optional GML feature properties, name and description, should be read.

#### Complex Properties as Nested Lists

Specifies whether GML properties that are defined as a complex type with complex content (that is, those that have embedded children elements) should be mapped as nested list attributes within FME features.

Some complex properties, such as those that are recursively defined, cannot be mapped as nested lists. These complex properties will always be mapped as XML fragments, regardless of the value of this directive.

#### Map XML fragments as XML documents

Specifies whether GML properties that are mapped as XML fragments should be converted into XML documents.

The conversion will add missing namespace declarations to the fragments, it will maintain CDATA sections, and it will also prefix an XML header declaration to the fragment. Converting the XML fragments into XML documents allows XML-based parsers, e.g., XSLT and XQuery based processors, to further process the fragments.

#### Map Geometry Columns

This parameter specifies whether the GML geometric properties should be represented as individual, and possibly multiple, geometry columns in FME feature type definitions.

A geometric column in an FME data feature is represented either as a single named geometry, or, if multiple geometry columns are present, as an aggregate geometry with multiple named geometry components. This aggregate geometry will also have its "Contains Individual Geometries" interpretation flag set.

A new attribute type has also been introduced for specifying the order and/or position of a geometric column in the feature type definition. If an attribute X has its type set to "xml\_geometry" then this attribute X becomes a

placeholder in the feature type definition. It is a placeholder because actual data features for the feature type definitions will not have this attribute; instead, the data features will have a geometry named "X".

## Application Schema

### Application Schema

A GML instance document specifies the namespace and the location of its application schema through its root element `xsi:schemaLocation` attribute. This field allows the GML reader to use a different GML schema document from the one specified in the `xsi:schemaLocation` attribute.

The XML Schema specification states that the `xsi:schemaLocation` attribute value consists of a set of pairs: The first member of each pair is the namespace for which the second member is the hint describing where to find an appropriate schema document. The presence of this hint does not require the processor to obtain or use the cited schema document, however, the processor is free to use other schemas obtained by other suitable means.

Note: This only takes effect if the target namespace of the dataset is not in the Safe fixed schema namespace <http://www.safe.com/xml/schemas/FMEFeatures>. See the GML chapter of the FME Readers and Writer manual for more information.

### Validate GML Dataset File

Determines whether the reader should validate the specified dataset file.

## SRS Parameters

### GML SRS Axis Order

Overrides the axis order when reading a coordinate tuple in a GML element. The valid values are "1,2", "2,1", "1,2,3" and "2,1,3". There is no default value.

For example, if the `srsName` in the GML document is set to "urn:ogc:def:crs:EPSG:6.6.4326", and the user is sure that the coordinate order in the GML document is lon-lat and not lat-lon order, set this parameter to "1,2" so that the reader reads the data in lon-lat order.

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Geography Markup Language (GML v2.1.2) Writer Parameters**

### **Schema Mode**

Controls the GML2 writer operation mode.

#### Fixed Schema

In this mode, the GML2 writer produces instance documents that conform to the FMEFeatures.xsd schema. The FMEFeatures.xsd file is under the {FME install dir}/xfMap directory.

#### FME Profile

In this mode, the GML2 writer creates two GML documents – a GML application schema and a GML instant document that conforms to this schema. A third XML document may also be created. This document can be used by the XML Reader to read back into FME the GML instances that are created in this mode. The xfMap document is created in the same directory as the one that is specified with the Dataset directive. The document's filename extension is .xmp and its filename basename is the same as that specified in Dataset.

#### ESRI Profile

In this mode, the GML2 writer produces instance documents that are formatted so they can be read by the ESRI interoperability GML extension.

## **Geography Markup Language Simple Features Level SF-0 Profile (GML SF-0) Reader Parameters**

### **Use Proxy Server**

#### Proxy Address

Specify an address in the format `www.someproxy.net`

#### Port

Specify a port number.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Authentication Method

Specifies the authentication method when accessing a password-protected proxy server. Valid selections are "Basic", "Digest" and "NTLM". The default value is Basic.

### **Feature Properties**

#### Read Predefined Properties

This checkbox specifies whether the default and optional GML feature properties, name and description, should be read.

### **Application Schema**

#### Application Schema

A GML instance document specifies the namespace and the location of its application schema through its root element `xsi:schemaLocation` attribute. This field allows the GML reader to use a different GML schema document from the one specified in the `xsi:schemaLocation` attribute.

The XML Schema specification states that the `xsi:schemaLocation` attribute value consists of a set of pairs: The first member of each pair is the namespace for which the second member is the hint describing where to find an appropriate schema document. The presence of this hint does not require the processor to obtain or use the cited schema document, however, the processor is free to use other schemas obtained by other suitable means.

Note: This only takes effect if the target namespace of the dataset is not in the Safe fixed schema namespace `http://www.safe.com/xml/schemas/FMEFeatures`. See the GML chapter of the FME Readers and Writer manual for more information.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **GeoMedia Access Warehouse Reader Parameters**

### **Database Connection**

#### Database

Contains the filename of an MS Access database or an existing ODBC data source name.

#### Password

For a password-protected GeoMedia Access warehouse, this is a required parameter; otherwise, it is optional.

### **Constraints**

#### Table List

Enter (or browse for) the name(s) of specific database table(s) to read from.

### **Text Options**

#### Text Size In Ground Units

GeoMedia can store text in two variations: plain text and rich text. Since FME supports plain text only, the GeoMedia reader will convert all rich text to plain text and set the text size to either the default (1 ground unit) or to the user-supplied size in ground units. The default is 1 and the range is any positive number less than 2,147,483,647.

Note: Often a dataset will appear with very small text that you cannot see until you zoom in closely, and other times the text seems too large for the data. It is suggested that for reading, set the size appropriate to the bounds of your source dataset.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **GeoMedia Access Warehouse Writer Parameters**

### **Warehouse Parameters**

#### Existing Warehouse

FME supports writing to an existing GeoMedia Access warehouse version 5 or creating a new version 5 Access warehouse from scratch. By default, GeoMedia Access warehouse version 4 is created for a new warehouse or when overwriting an existing warehouse. If this box is not selected, then the writer will determine the version of existing warehouse and write to it regardless of the selection in Warehouse Version.

If the warehouse does not exist, the writer will create a new warehouse whose version will be determined by Warehouse Version selection below.

### **GeoMedia Warehouse Version**

#### GeoMedia Warehouse Version

Allows the option to specify the GeoMedia Access warehouse version when creating a new warehouse or when overwriting an existing warehouse.

### **MS Access Version**

#### MS Access Version

Select the software version of MS Access.

### **Modification Parameters**

#### Log Warehouse Changes

Select this option to create a log of Warehouse changes.

### **Spatial Parameters**

#### Spatial Parameters

When creating a new warehouse or overwriting an existing warehouse, native GeoMedia spatial index creation is performed automatically by the FME GeoMedia Access Warehouse Writer as long as the input data comes from a known coordinate system that has a corresponding datum mapping in the autodt.ini file under the GeoMedia install directory. If a spatial index is not desired for the new warehouse, select No.

### **Text Parameters**

#### Text Formatting

Select either Rich Text Formatting (RTF - the default) or Plain Text for the output.

#### Font Size

Specify the font size in points.

## **GeoMedia SQL Server Warehouse Reader Parameters**

### **Database Connection**

#### Server

Specifies the name of server hosting the MS SQL Server which stores GeoMedia warehouse.

#### Database

When you enter the Database in the Input Dataset field, the Database field will be automatically populated in the Parameters box.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Table List

Enter (or browse for) the name(s) of specific database table(s) to read from.

#### WHERE Clause

Any SQL where clause can be applied to the columns of a table to limit the resulting features.

### **Text Options**

#### Text Size in Ground Units

The GeoMedia reader will set the text size to either the default (1 ground unit) or to this user-supplied size in ground units. The default is 1 and the range is any positive number less than 2,147,483,647.

Note: Often a dataset will appear with very small text that you cannot see until you zoom in closely, and other times the text seems too large for the data. It is suggested that for reading, set the size appropriate to the bounds of your source dataset.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **GeoMedia SQL Server Warehouse Writer Parameters**

### **Database Connection**

#### Server

Specifies the name of server hosting the MS SQL Server which stores GeoMedia warehouse.

#### Database

When you enter the Database in the Destination Dataset field, the Database field will be automatically populated in the Parameters box.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Use Windows Authentication

Specifies whether Windows Authentication should be used to authenticate with the database. If this option is selected, the Username and Password fields are ignored.

### **Constraints**

#### Table List

After you have completely specified the database connection, click the Browse button to select tables to import. A connection window appears while the system reads a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

An SQL WHERE clause can be applied to each table's columns, to constrain the attributes of the layers selected in the layer list (for example, NUMLANES=2).

### **Text Options**

#### Text Size In Ground Units

GeoMedia can store text in two variations: plain text and rich text. Since FME supports plain text only, the GeoMedia reader will convert all rich text to plain text and set the text size to either the default (1 ground unit) or to the user-supplied size in ground units. The default is 1 and the range is any positive number less than 2,147,483,647.

Note: Often a dataset will appear with very small text that you cannot see until you zoom in closely, and other times the text seems too large for the data. It is suggested that for reading, set the size appropriate to the bounds of your source dataset.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **GeoReferenced Tagged Image File Format (GeoTIFF) Reader Parameters**

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you do not select this option, the only feature type this reader will use is the reader type name, which in this case is GEOTIFF.

#### Group By Subdataset Name

If you select this option, the name of each dataset is the subdataset name. If you do not select this option, the name of each dataset is the reader type name.

#### Apply GCPs

If you select this option, the GCP information, including a GCP projection, will be read from the file and applied to the raster data as an affine transformation. If you do not select this option, the GCP information is preserved as properties on the raster geometry.

### **GCP Interpolation Method**

Choose from NearestNeighbor (default), Bilinear or Bicubic.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## GeoRSS/RSS Feed Reader Parameters

### URL Parameters

#### Additional URL Parameters

This field is used only if the reader is accessing a dataset that is a URL. The entered value should be a space-separated list of space-separated name-value pairs. The name-value pairs will be added to the dataset URL. A value must be provided for each parameter name. An empty string ( "" ) can be used to provide an empty parameter value.

For example, if the GeoRSS server is

```
http://localhost/trafficdata.xml,
```

and your additional URL parameter is

```
province bc city vancouver
```

then the reader will access this URL:

```
http://localhost/trafficdata.xml?province=bc&city=vancouver
```

### Reader Mode

#### Normal

In normal mode, the reader will always return a feature for every feed entry that it processes.

#### Update

In update mode, the reader will only return entry features if they are new or updated. This is accomplished in two ways.

When invoked on a URL in update mode, the reader will save certain key HTTP headers from the response. When the reader is run again with the same URL, it will return these headers to the server, which will use them to determine if the feed has changed since the reader last requested it. If the feed has changed, the server will return it and the reader will proceed as normal. If the feed has not changed, the server will return an HTTP 304 status code, indicating that the feed has not changed, and the reader will quit without returning any features. Note that this functionality is only possible when the dataset is a remote URL.

When processing features in update mode, the reader will save the ID and modification date of each feed entry. In an RSS feed, which does not define an entry modification date, only the entry ID ( taken from the <guid> element ) will be saved. In an Atom feed, both the ID ( taken from the <id> element ) and the modification date ( taken from the <updated> element ) will be saved. If the reader is run again with the same dataset, a feed entry will be skipped if an identical modification date has already been saved for the the entry's ID. Note that this functionality will work for both file and URL datasets.

To provide additional control over update mode, you can set the **Feedstore Key Value** which allows the update mode to treat different datasets as identical for the purposes of determining updates. For instance, a user might wish to treat an RSS feed and a locally downloaded cache of a feed as identical for the purposes of determining updates.

The feed headers and entry modification information is stored in a separate database for each feed, which will be displayed in the log when the reader is run. Deleting this file will force the reader to treat a feed as if it had never

been read before. The reader also keeps a database which maps feed locations ( URLs or file paths ) to database files. Deleting this file forces the reader to treat all feeds as if they had never been read before. The location of this file is configurable with a reader directive. The default file is georssfmefeedssqlite in the FME temp directory.

## Feedstore Parameters

### Feed Database Location

Specifies the file system directory which contains the databases storing information about the feeds that the GeoRSS reader has processed. This field is only read if the reader is running in update mode. If no value is set, the FME temp directory will be used.

### Max Feedstore Entry Age (in days)

Specifies the age in days at which entries will be deleted from a feed's database. When the reader is run in update mode, the reader will delete any entries from the database for this feed which are older than the specified value. This ensures the feed database does not become arbitrarily large. If a value is not specified, or is 0, no entries will be deleted.

### Feedstore Key Value

This directive allows the user to specify which feeds should be treated as coming from the same source. It only has an effect if the reader is run in update mode. When this directive is set, the input file/URL is treated as identical to any other previous read input which has the same feedstore identifier. If no value for this directive is set, it is the same as setting it equal to the DATASET directive.

## Use HTTP Authentication

### HTTP Authentication Username

Enter the username for HTTP authentication.

### HTTP Authentication Password

Enter the password for HTTP authentication.

### HTTP Authentication Method

Select the desired authentication method from the drop-down list.

## Use Proxy Server

### HTTP Proxy URL

Enter a proxy server that the reader will use when accessing a URL dataset (for example, www.someproxy.net).

### HTTP Proxy Port

Enter the port number of the proxy server indicated above (for example, 8080). This field is ignored if the HTTP Proxy URL has not been specified.

### HTTP Proxy Username

Enter the username to use when accessing a password-protected proxy server. This field is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Password or HTTP Proxy Authentication Method fields.

### HTTP Proxy Password

Enter the password to use when accessing a password-protected proxy server. This directive is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Username or HTTP Proxy Authentication Method fields.

#### HTTP Proxy Authentication Method

Specify the authentication method (either Basic or Digest) to use when accessing a password-protected proxy server. This directive is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Username or HTTP Proxy Password fields.

#### Search Envelope

##### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

##### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***GeoRSS/RSS Feed Writer Parameters***

### **Writer Parameters**

#### **Output Character Set**

The character set encoding in which the output XML feed will be written. Possible values for this field are UTF-8, UTF-16, UTF-16BE, UTF16-LE, UTF-32, UTF-32BE and UTF-32LE. If no character set is specified, the feed will be written in the UTF-8 character set. If an invalid character set is specified, the translation will fail.

#### **Output Format**

Specifies the format of the XML feed that the GeoRSS writer will produce. If the value is Atom, the writer will produce an Atom 1.0 feed. If the value is RSS, the writer will produce an RSS 2.0 feed.

#### **Geometry Format**

Specifies the format of the output feed's geometry extensions.

#### **Escape Html Content**

Determines how the writer handles HTML content. If you choose Yes, the writer will escape HTML content before outputting it. If you choose No (which is the default), the writer will output the content unchanged. This only applies to feature attributes whose corresponding 'type' attribute is set to 'html'.

Note: If you choose No and unescaped HTML content is passed to the writer, the output may not be a valid XML.

## **GeoTask Server Reader Parameters**

### **Database Connection**

The ODBC server is the name or alias of the ODBC database on a GeoTask server machine. You will need a user-name and password to connect to the database.

### **Tables**

#### Schema

Enter (or browse for) the name of the database schema to use when accessing tables.

#### Table List

Enter (or browse for) the name(s) of specific database table(s) to read from.

#### SQL Statement

Enter an SQL query to retrieve specific rows from a named table. For example:

```
districts (pop > 2000) AND  
(income <=20000)
```

### **Format Notes**

This format is not available with FME Base Edition.

## **GeoTask Writer Parameters**

### **Database Connection**

The ODBC server is the name or alias of the ODBC database on a GeoTask server machine. You will need a user-name and password to connect to the database.

### **Schema**

Enter (or browse for) the name of the database schema to use when accessing tables.

### **On Error**

If Abort is not checked: FME will continue the transfer.

If Abort is checked: FME will abort the transfer.

If Rollback is not checked: FME will commit all good features.

If Rollback is checked: FME will roll back all following features.

### **Writer Mode**

The Writer Mode causes the FME to either insert data into, delete data from, or update data in a database table. The current version of the GeoTask server writer supports INSERT only.

## **German AAA GML Exchange Format (NAS) Reader Parameters**

### **Feature Properties**

#### Complex Properties as Nested Lists

Specifies whether GML properties that are defined as a complex type with complex content (that is, those that have embedded children elements) should be mapped as nested list attributes within FME features.

Some complex properties, such as those that are recursively defined, cannot be mapped as nested lists. These complex properties will always be mapped as XML fragments, regardless of the value of this directive.

#### Map XML fragments as XML documents

Specifies whether GML properties that are mapped as XML fragments should be converted into XML documents.

The conversion will add missing namespace declarations to the fragments, it will maintain CDATA sections, and it will also prefix an XML header declaration to the fragment. Converting the XML fragments into XML documents allows XML-based parsers, e.g., XSLT and XQuery based processors, to further process the fragments.

### **SRS Parameters**

#### GML SRS Axis Order

Overrides the axis order when reading coordinate tuples in a CityGML <pos> or <posList> element. Valid values are "1,2,3" and "2,1,3".

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## ***GIF Rasterizer Writer Parameters***

### **Image Size**

#### **Width**

Specifies the image width in pixels.

Note: When the Force Square Pixels box is checked, the width of the output image may not necessarily be equal to the width specified in this field, as the number of pixels will be modified to make each pixel cover a square area in ground units. This adjustment occurs when the aspect ratio of the desired GIF does not match the aspect ratio of the input data's bounding box.

#### **Height**

Specifies the image height in pixels.

Note: As with the Width parameter, when the Force Square Pixels box is checked, the height of the output image may not necessarily be equal to the height specified in this field.

### **Raster Parameters**

#### **Force Square Pixels**

Check to force square pixels. If you check the box, then the aspect ratio of the input data is preserved but some of the output image may be unused. To stretch the data to fill the image, do not check this box.

## **Golden Software Surfer 6 Binary Grid Reader Parameters**

### **Dataset Parameters**

#### Group by Filename

When this box is not checked, the only feature type this reader will use is the reader type name, which in this case is SURFER6BINARY.

When this box is checked, the feature type of each dataset is the filename (without the path or the extension) of the dataset.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Google Earth KML Reader Parameters**

### **General**

#### Verbose Logging

Specifies whether or not the reader should increase the logging verbosity. Possible values are Yes and No. The default is No.

#### Read Overlays as Rasters

Specifies whether the images files referenced by Overlay elements should be read as raster geometry.

If set to All, all GroundOverlay, PhotoOverlay, and ScreenOverlay images will be read as raster geometry.

If set to GroundOverlay, then only GroundOverlay images will be read.

#### Scan Schema

Specifies whether or not the reader should scan the KML files for schema elements.

If this box is not checked, KML elements will be read using the fixed schema. KML datasets using the KML 2.1 schema may not be read properly unless this option is checked.

#### Fail on Network Errors

Specifies whether or not the reader should terminate the translation if a network error occurs.

#### Delete Downloaded Files

Specifies whether or not the reader should delete temporary files downloaded as part of the reading process.

#### Traverse NetworkLinks

Specifies whether or not NetworkLink or schemaUrl references to external KML files should be traversed (i.e. to read the referenced document).

If Local is specified, then references will only be traversed if they refer to a file on the local filesystem.

#### Move To World Coordinate System

If the value of this parameter is 'Yes', the companion '.prj' and '.wld' files (having the same name as the '.obj' file) will be read to acquire the coordinate system and the data necessary to convert points to the world coordinate system.

Note: In the absence of a companion '.wld' file with the same name as the '.obj' file, a file named 'global.wld' will be looked for in the same directory. Similarly for the companion '.prj' file, only in that case we will only look for a file named 'global.prj'.

#### Apply Transformations To Models

Specifies whether or not scaling and orientation metadata in the KML Placemark will be applied to the model geometry prior to being output.

#### Maximum NetworkLinks Traversal Depth

Specifies the maximum depth of the traversal tree.

The traversal depth is the number of links that must be traversed to get from the original file to the root file. For example, if the dataset root refers to DocB, which refers to DocC, the traversal depth is 2.

## Proxy

### Proxy URL

Specifies the URL of a proxy server that will be used for all HREF traversal.

### Proxy Port

Specifies the port number for the proxy server. Not valid if Proxy URL is not supported.

### Proxy Username

Specifies the user name to use to login to the proxy server. Not valid if Proxy URL is not supported.

### Proxy Password

Specifies the password to use to login to the proxy server. Not valid if Proxy URL is not supported.

### Proxy Authentication Method

Specifies the authentication method to use to login to the proxy server. Not valid if Proxy URL and Proxy Username are not supported.

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Google SketchUp Reader Parameters**

### **Entity Handling**

#### Skip Faces with Default Materials

If set to Yes, this option will skip faces that have the SketchUp default material.

This option is useful when a model has been designed with all front faces and back faces with default material are to be ignored.

#### Resolve Default Materials

If set to Yes, this option will set faces with default materials to the named materials sketchup\_default\_front and sketchup\_default\_back for front and back sides of FME surfaces produced. The named materials sketchup\_default\_front and sketchup\_default\_back are defined with the SketchUp model's default colors for front and back.

If this option is set to No, then faces with default materials will have a material reference of 0 and it will be up to the consumer to define and assign a default material.

#### Read Edges

If set to Yes, this option will force all edges that make up faces to be read as line features.

#### Tessellate Donuts

This option, when set to Yes, forces faces with holes (donuts) to be broken into triangles when reading. If set to No (the default), SketchUp faces with holes are stored as FME donuts.

#### Read Invisible Geometry and Layers

If set to Yes, this option instructs the reader to read all geometry elements, even if they are not displayed inside the SketchUp application. Geometry can be hidden with the visibility flag on the layer or on individual geometry elements.

If set to No (the default), only geometry elements that are visible will be read in.

Note: Layers that are not visible will still have a layer (feature type) exposed in the schema.

#### Read as Nested Geometry

When set to Yes, this option will create nested geometry from groups and components. When set to No, nested geometry will be exploded and transformed in place.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Google SketchUp Writer Parameters**

### Assign Default Texture Coordinates

3DS supports texture coordinates, which can be set as measures for each vertex in a geometry.

Possible values are Clipped Per Face and No (default). If the value is Clipped Per Face, then default  $u$  texture coordinates and  $v$  texture coordinates are assigned to all the vertices in the mesh. If both  $u$  and  $v$  texture coordinates already exist on the vertices, default texture coordinate values will not be assigned. If only one of  $u$  or  $v$  texture coordinates already exist on the vertices, the pre-existing values will be overwritten.

### Coordinate System

#### Move to Local Coordinate System

**PRJ\_ONLY:** A companion .prj file containing the coordinate system and having the same name as the .dae file will be written in the same directory as the .dae file.

**Yes:** In addition to writing the .prj file as in the PRJ\_ONLY option, a companion .fwt file with the same name as the .dae file will be written in the same directory as the .dae file and the coordinates of all the points in the written features will be normalized to the interval  $[-0.5, 0.5]$  on the largest side of their XYZ-bounding cube.

The other dimensions will be scaled proportionally. The transformation matrix required to scale the model back to world coordinates is contained in the .fwt file. This can be used to improve precision of the written coordinates.

## **Google Spreadsheet Reader Parameters**

### **Connection Parameters**

#### Google Docs Username

Enter a Google Docs username that has access to the spreadsheet to be read.

#### Google Docs Password

Enter a Google Docs password for the specified username.

#### Spreadsheet Name

Click the Browse button, and select the spreadsheet to be read.

### **Worksheet Defaults**

#### Field Names in File

Indicates whether the field names are specified in the spreadsheet file.

#### Header Lines Before Field Name

Indicates whether header lines appear before the field names in the spreadsheet file.

#### Number of Header Rows

Enter the number of header rows in the spreadsheet.

#### Read Formulas Instead of Values

Indicates whether the reader should read formulas from the spreadsheet or actual values.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## ***Google Spreadsheet Writer Parameters***

### **Connection Parameters**

#### Google Docs Username

Enter a Google Docs username that has access to the spreadsheet to be written.

#### Google Docs Password

Enter a Google Docs password for the specified username.

#### Spreadsheet Name

Enter a name for the spreadsheet to be written.

### **Writing Options**

#### Overwrite Existing Spreadsheet

If you select Yes, the writer deletes the existing spreadsheet and writes out the new one with the same name.

#### Output Field Names

If you select Yes, the first line of the spreadsheet will be written with the field names as column titles.

## **GPS eXchange Format (GPX) Reader Parameters**

### **Reader Parameters**

#### Reader Mode

Specifies how GPX elements are read into FME features.

**Backward Compatibility Mode** will read Trackpoints, Routepoints, Tracks, and Routes in as features.

**Normal Mode** will only read in Track and Route features, storing the point information as traits of the features' geometries, as specified in the schema overview.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## **Graphics Interchange Format (GIF) Reader Parameters**

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you do not select this option, the only feature type this reader will use is the reader type name, which in this case is GIFRASTER.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Graphics Interchange Format (GIF) Writer Parameters**

### **Image Size**

#### Width

Defines the width of the output GIF file in pixels.

Note: When the Force Square Pixels box is checked, the width of the output image may not necessarily be equal to the width specified in this field, as the number of pixels will be modified to make each pixel cover a square area in ground units. This adjustment occurs when the aspect ratio of the desired GIF does not match the aspect ratio of the input data's bounding box.

#### Height

Controls the height of the output GIF image in pixels.

Note: As with the Width parameter, when the Force Square Pixels box is checked, the height of the output image may not necessarily be equal to the height specified in this field.

### **Raster Parameters**

#### Force Square Pixels

Check to force square pixels. If you check the box, then the aspect ratio of the input data is preserved but some of the output image may be unused. To stretch the data to fill the image, do not check this box.

## **Halliburton GeoGraphix CDF Reader Parameters**

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## Hierarchical Data Format 4 (HDF4) ASTER Reader Parameters

### Dataset Parameters

#### Group by Filename

**No (default):** The only feature type this reader will use is the reader type name.

**Yes:** The feature type of each dataset is the filename (without the path or the extension) of the dataset.

#### Group by Scientific Dataset Name

The values of Group by Filename and Group by Scientific Dataset name together provide four different options for the feature type names

Group by File-name	Group by Scientific Dataset Name	Feature Type Name	Example
No	No	<reader_type_name>	HDF4_ASTER
No	Yes	<subdataset_name>	[331X720]_ SURFACE_FLAG__8_BIT_ UNSIGNED_ INTEGER
Yes	No	<filename>	CURRENT_DHW
Yes	Yes	<filename_subdataset_name>	CURRENT_DHW_ [331X720]_ SURFACE_FLAG__8_BIT_ UNSIGNED_ INTEGER

#### Apply GCPs

**No (default):** The GCP information is preserved as properties on the raster geometry.

**Yes:** The GCP information, including a GCP projection, will be read from the file and applied to the raster data as an affine transformation.

### GCP Interpolation Method

Choose from NearestNeighbor (default), Bilinear or Bicubic.

### Schema Attributes

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.

- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## Hierarchical Data Format 4 (HDF4) Hyperion Reader Parameters

### Dataset Parameters

#### Group by Filename

**No (default):** The only feature type this reader will use is the reader type name.

**Yes:** The feature type of each dataset is the filename (without the path or the extension) of the dataset.

#### Group by Scientific Dataset Name

The values of Group by Filename and Group by Scientific Dataset Name together provide four different options for the feature type names

Group by File-name	Group by Scientific Dataset Name	Feature Type Name	Example
No	No	<reader_type_name>	HDF4_HYPERION
No	Yes	<subdataset_name>	[242X256]_GAIN_COEFFICIENTS__32_FLOATING_POINT_
Yes	No	<filename>	EO1H0150332002121112PF
Yes	Yes	<filename_subdataset_name>	EO1H0150332002121112PF_ [242X256]_GAIN_ COEFFICIENTS__32_BIT_FLOATING_ POINT_

#### Apply GCPs

**No (default):** The GCP information is preserved as properties on the raster geometry.

**Yes:** The GCP information, including a GCP projection, will be read from the file and applied to the raster data as an affine transformation.

### GCP Interpolation Method

Choose from NearestNeighbor (default), Bilinear or Bicubic.

### Schema Attributes

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### Search Envelope

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **IBM DataStage Reader Parameters**

### DataStage Metadata

Click the Browse button, and select the metadata file to be read.

### Schema Attributes

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### Search Envelope

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **IBM DB2 Non-Spatial Reader Parameters**

### **Database Connection**

#### Database

This is the data source name similar to an ODBC data source name. When you enter the Database in the Input Dataset field, the Database field will be automatically populated in the Parameters box.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Table List

After you have completely specified the database connection, click the Browse button to select tables to import. A connection window appears while the system reads a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

An SQL WHERE clause can be applied to each table's columns, to constrain the attributes of the layers selected in the layer list (for example, NUMLANES=2).

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Format Notes**

This format is not available with FME Base Edition.

## ***IBM DB2 Non-Spatial Writer Parameters***

### **Database Connection**

#### Database

This is the data source name similar to an ODBC data source name. When you enter the Database in the Destination Dataset field, the Database field will be automatically populated in the Parameters box.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### ***Format Notes***

This format is not available with FME Base Edition.

## **IBM DB2 Spatial Reader Parameters**

### **Database Connection**

#### Database

This field is usually left blank. The input dataset settings define the data source name for the DB2 Spatial database. The data source name must have been set up in the Client Configuration Assistant or on the command line.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Table List

After you have completely specified the database connection, click the Browse button to select tables to import. A connection window appears while the system reads a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

Enter any SQL where clause that constrains the attributes of the layers selected in the layer list (for example, NUM-LANES=2).

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

### **Format Notes**

This format is not available with FME Base Edition.

## **IBM DB2 Spatial Writer Parameters**

### **Database Connection**

#### Database

This is the data source name similar to an ODBC data source name. When you enter the Database in the Destination Dataset field, the Database field will be automatically populated in the Parameters box.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Layout Parameters**

#### Offset X

Sets the global X offset for the entire translation. If a dataset contains many different tables but the same X offset applies to all of them, then this is a convenient way of setting the X offset.

#### Offset Y

Sets the global Y offset for the entire translation. If a dataset contains many different tables but the same Y offset applies to all of them, this is a convenient way of setting the Y offset.

#### Scale X

Sets the global x scale value for the entire translation. If a dataset may contains many different tables but the same x scale applies to all of them, then this is a convenient way of setting the x scale value.

#### Scale Y

Sets the global y scale value for the entire translation. If a dataset contain many different tables but the same y scale applies to all of them, then this is a convenient way of setting the y scale value.

### **Format Notes**

This format is not available with FME Base Edition.

## **IBM Informix Reader Parameters**

### **Database Connection**

#### ODBC Name

This is the ODBC data source name. When you enter the Database in the Input Dataset field, the Database field will be automatically populated in the Parameters box.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Table List

After you have completely specified the database connection, click the Browse button to select tables to import. A connection window appears while the system reads a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

An SQL WHERE clause can be applied to each table's columns, to constrain the attributes of the layers selected in the layer list (for example, NUMLANES=2).

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Format Notes**

This format is not available with FME Base Edition.

## ***IBM Informix Writer Parameters***

### **Database Connection**

#### ODBC Name

This is the data source name similar to an ODBC data source name. When you enter the Database in the Destination Dataset field, the Database field will be automatically populated in the Parameters box.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### ***Format Notes***

This format is not available with FME Base Edition.

## **IBM Informix Spatial Reader Parameters**

### **Database Connection**

#### ODBC Name

This is the ODBC data source name. When you enter the Database in the Input Dataset field, the Database field will be automatically populated in the Parameters box.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Table List

After you have completely specified the database connection, click the Browse button to select tables to import. A connection window appears while the system reads a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

An SQL WHERE clause can be applied to each table's columns, to constrain the attributes of the layers selected in the layer list (for example, NUMLANES=2).

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

### **Format Notes**

This format is not available with FME Base Edition.

## ***IBM Informix Spatial Writer Parameters***

### **Database Connection**

#### **ODBC Name**

This is the data source name similar to an ODBC data source name. When you enter the Database in the Destination Dataset field, the Database field will be automatically populated in the Parameters box.

#### **Username and Password**

Enter the username and password to access the database, user account, or wherever authentication is required.

### ***Format Notes***

This format is not available with FME Base Edition.

## **IBM PASW (SPSS) .sav Reader Parameters**

### Character Encoding

This optional parameter controls which character encoding is used to interpret text attributes from the file. If the value is not set, then the character encoding will be automatically detected from the source file. If the value is set, it will take precedence over the automatically detected character encoding.

This parameter is useful when the character encoding information stored in the file is missing or incorrect.

## ***IBM PASW (SPSS) .sav Writer Parameters***

### Character Encoding

This optional parameter controls which character encoding is used to interpret text attributes from the file. If the value is not set, then the character encoding will be automatically detected from the source file. If the value is set, it will take precedence over the automatically detected character encoding.

This parameter is useful when the character encoding information stored in the file is missing or incorrect.

## **IDRISI Vector Format Reader Parameters**

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Industry Foundation Class (IFC) Reader Parameters**

### Reader Overview

The IFC specification is promoted and published by International Alliance for Interoperability (IAI). The IFC model specification is published in the ISO 10303 EXPRESS data modelling language. Data is exchanged through the ISO 10303 STEP-File plain-text format.

The IFC Reader module support IFC specification version 2x, 2x2, and 2x3.

All class instances that descend from IfcRoot are mapped to features in FME. There are three fundamental class types in the IFC model:

- Descendants of IfcObject stands for all physically tangible and existing items, and conceptual items, such as processes and resources. IfcProduct is a subtype of IfcObject and descendants of IfcProduct are the only classes that may have a geometric representation.
- Descendants of IfcRelationship describe relationships between objects.
- Properties are descendants of IfcPropertyDefinition and are characteristics that may be assigned to objects.

Instances are uniquely identified by an instance name inside a STEP-File dataset. Instance names appear in attributes that reference other instances.

The attributes of IFC classes are fixed. However, objects can be extended by properties. Properties may have predefined structures defined by the IFC model, or they can be dynamically defined inside a dataset.

A collection of properties forms a property set, and the set is assigned to an object through a relationship instance. In FME, dynamic property set instances are identified by the Name attribute, and they form feature types according to this attribute. Properties assigned to these dynamic property sets appear as attributes of feature types.

### Feature Constraints

#### Split multiple representations

Specifies whether IfcProduct objects associated with multiple IfcShapeRepresentation objects will be read as a single FME feature.

If you select No and the IfcProduct object is associated with multiple IfcShapeRepresentation objects, then the geometry of the feature will be a collection of all the geometric representations. If you select Yes, which is the default, then the IfcProduct will be split among multiple FME features with each feature geometrically represented by a single IfcShapeRepresentation object. All the split features will have the same attributes that are on the IfcProduct object.

#### Subtract Openings

Specifies whether the reader will subtract IfcOpeningElement representations from IfcProduct representations that are related together by an IfcRelVoidsElement object. If you select Yes (which is the default), then the IfcOpeningElement objects will have no geometry, and IfcProduct representations will have openings as determined by the IfcRelVoidsElement relationship. If you select No, then the opening will not be calculated, and IfcOpeningElement objects will retain their representations.

### Features to Read

#### Read IfcSpace Geometries

Specifies whether the reader will preserve or remove the representations of IfcSpace features. IfcSpace

geometries are virtual areas or volumes that provide for certain functions within a building. When physical entities are most important, visualizing these volumes of space may not be desirable.

If value is Yes, then IfcSpace features will have their defined representations. If the value is No (which is the default), then IfcSpace features will have no geometry.

### Representation Context Types to Read

Specifies which geometric representation will be processed by the reader according to the associated IfcRepresentationContext object's ContextType attribute.

If this parameter is not specified, then all representations will be processed. The format for values for this parameter is a comma-delimited list of ContextType values. If at least one ContextType value is specified for this parameter, then the reader will only process the representations that are associated with IfcRepresentationContext objects that have ContextType values that appear in the list specified for this parameter. However, if a '!' character appears by itself in the comma-delimited string, then the reader will not process the representations associated with representation contexts that match a value in the list.

For example, entering

Design,Sketch

will direct the reader to only read geometric representations that are associated with 'Design' and 'Sketch' representation contexts:

However, entering

!,Sketch

will direct the reader to read all geometric representations that are not associated with the 'Sketch' representation context:

### Representation Identifiers to Read

Specifies which geometric representation will be processed by the reader according to the IfcRepresentation object's RepresentationIdentifier attribute.

If this parameter is not specified, then all representations will be processed. The format for values for this parameter is a comma-delimited list of RepresentationIdentifier values. If at least one RepresentationIdentifier value is specified for this parameter, then the reader will only process the representations that have RepresentationIdentifier values that appear in the list specified for this directive. However, if a '!' character appears by itself in the comma-delimited string, then the reader will not process the representations that match a value in the list.

For example, entering

Axis,Body

will direct the reader to only read geometric representations with 'Axis' and 'Body' representation identifiers.

However, entering

!,Axis

will direct the reader to read all geometric representations except for the ones with an 'Axis' representation identifier.

### Representation Types to Read

Specifies which geometric representation will be processed by the reader according to the IfcRepresentation object's RepresentationType attribute.

If this parameter is not specified, then all representations will be processed. The format for values for this parameter is a comma-delimited list of RepresentationType values. If at least one RepresentationType value is specified for this parameter, then the reader will only process the representations that have RepresentationType values that appear in the list specified for this parameter. However, if a '!' character appears by itself in the comma-delimited string, then the reader will not process the representations that match a value in the list.

Representations can have multiple representation types: specifically, the MappedRepresentation type can coexist with other representation types. In this case, all representation types applicable to the representation must be specified for that representation to be read.

For example, entering

```
Brep,SweptSolid
```

will direct the reader to only read geometric representations with "Brep" and "SweptSolid" representation types.

However, entering

```
!,BoundingBox
```

will direct the reader to read all geometric representations except for the ones with a "BoundingBox" representation type. This is the default value for this parameter and will be used if the parameter was not specified.

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Informatica Reader Parameters***

### **Informatica Metadata**

#### Metadata File

The name of the metadata file (\*.XML) that contains schema information exported from Informatica PowerCenter.

#### Custom Transformation

The FME custom transformation name from which to import source schema information.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Intergraph MGE Reader Parameters**

### **Database Connection**

#### Database Type

Select ODBC, Access MDB or Oracle.

#### Access MDB File

If you select Access MDB above, specify the Access MDB file.

#### ODBC Data Source

If you select ODBC above, enter the ODBC datasource that points to your MGE database. Depending on your database, you may also have to enter a username and password.

#### Oracle Service Name

If you select Oracle above, enter the name of the Oracle service. Depending on your database, you may also have to enter a username and password.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Table List

Click the Browse button to select tables for export. You may only select this after you've completely specified the database connection.

After you click the Browse button, a search window appears while the system compiles a table list from the database. Once the table list appears, you can select one or more tables, and then click the OK button to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

### **General Table Names**

#### Feature

Identifies the name of the feature table. Use this field only if you have a feature table with a name other than *feature*.

#### Category

Identifies the name of the feature table. Use this directive only if you have a category table with a name other than *category*.

### **Expand Cells**

Determines how you want the cells to be expanded into separate features.

#### Named Cells

Check this box if you want the cells expanded into separate features.

#### Unnamed Cells (group)

When checked, unnamed cells are output, but the cell header itself is not output. In this case, donut polygons will

not be formed from member shape elements. All member elements will retain their original colors. If it is not checked, then the cell is not exploded into its components and only the cell header is output. Donut polygons may be formed if multiple intersecting polygons existed.

### Preserve Unnamed Cells (group)

When checked, outputs the insertion point of the unnamed cell.

## Coordinate Units

Specify the coordinate units of the features.

### Master

The UORs read from the design file will be converted into master units, according to the conversion factor defined in MicroStation's terminal control block (TCB), before being stored in an FME feature. This is the default.

### Sub

The UORs read from the design file will be converted into subunits, according to the conversion factor defined in MicroStation's TCB, before being stored in an FME feature.

### UOR

The UORs read from the design file will be stored directly in an FME feature, with no conversion.

## Complex Strings

### Drop Complex Chains/Shapes

Check this box if you want each component of a complex chain to be returned as its own feature and no feature will be returned for the complex chain as a whole. Otherwise all elements of the complex chain will be merged into a single linear feature, any arcs in the complex chain will be converted into linestrings and any linkages on the component elements themselves will be lost.

### Propagate Member Linkages

Check this box if you want the linkages attached to the first component of the complex chain to be returned on the FME feature, supplementing any existing linkages. Otherwise any linkages on the component elements themselves will be lost and only those linkages attached to the complex chain itself will be returned.

## Text

### Split Multi Text

When selected, splits the multi text.

Tip: If you have installed ODBC drivers (which normally happens when you install Microsoft Access or another database), you can set up ODBC datasources using the ODBC option in your Windows Control Panel.

## Format Notes

This format is not available with FME Base Edition.

## **Intergraph MGE Writer Parameters**

### **Database Connection**

#### Database Type

Select ODBC, Access 97 MDB, Access 2000, MDB, or Oracle.

#### Access MDB File

If you select Access MDB above, specify the Access MDB file.

#### Access MDB Version

If you select Access MDB above, specify the Access MDB version.

#### ODBC Datasource

If you select ODBC above, enter the ODBC datasource that points to your MGE database. Depending on your database, you may also have to enter a username and password.

#### Oracle Service Name

If you select Oracle above, enter the name of the Oracle service. Depending on your database, you may also have to enter a username and password.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Transaction Interval

The number of features that are to be in a single transaction before the FME performs a commit operation when writing to the database.

#### Immediate Writes

Specifies if the database is written immediately when needed (checked) or not (unchecked).

### **General Table Names**

#### Feature

Specifies the name of the feature table to be written. This defaults to the name *feature*.

#### Category

Specifies the name of the category table to be written. This defaults to the name *category*.

### **Design File Parameters**

#### Allow Area Fills

Controls whether or not fill linkages will be written out for ellipses, shapes, and solids.

#### Compute Optimal Seed File Parameters

Check this box if you want to automatically adjust the origin and scaling of the seed file to provide an optimum set of parameters for the input data.

#### Output Units

Choose the coordinate units.

### Two Point Line Output

Specify how you want to store the two-point line features.

### Seed File

Set the location of the seed file, which controls whether or not the output design file is two-dimensional or three-dimensional, and set the global origin unit information.

### Cell Library File

The file name of IGDS cell library, which contains the definitions of cells which may later be output.

**Tip:** If you have installed ODBC drivers (which normally happens when you install Microsoft Access or another database), you can set up ODBC datasources using the ODBC option in your Windows Control Panel.

### **Format Notes**

This format is not available with FME Base Edition.

## **ISO8211 Reader Parameters**

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ITT ENVI .hdr RAW Raster Reader Parameters***

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you do not select this option, the only feature type this reader will use is the reader type name, which in this case is ENVIHDR.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **JSON (JavaScript Object Notation) Reader Parameters**

### **Feature Type Parameters**

#### JSON Query for Feature Objects

Specifies where in the JSON text the reader should look for objects representing FME features. If no value is provided, then the default query `json[*]` is used. This default query will work for a dataset that is an array of JSON objects, each of which represents a single feature. More information on JSON queries can be found in the `JSONQueryFactory` documentation (from the Workbench help menu, choose FME Functions and Factories Reference).

#### Feature Type Key Name

Specifies the JSON object key whose value will become the feature type of the FME feature produced from the object. If no value is provided, then a default value of `json_featuretype` will be used.

### **Geometry Parameters**

#### Geometry Key Name

Specifies the JSON object key whose value contains the geometry of the FME feature produced from the object. If no value is provided, then a default value of `json_geometry` is used.

#### Geometry Format

Specifies the geometry format that the reader should use when converting the value of the Geometry key name into FME geometry. Possible values are `GeoJSON`, `OGC-WKT` and `None`. If no value is provided, then a default value of `GeoJSON` is used.

### **URL Dataset Parameters**

#### Delete Downloaded File

If set to `Yes` (which is the default), then when the reader has finished reading downloaded GeoJSON text, it will delete the file that the text was downloaded to. This field is only meaningful if the dataset is a URL.

### **Proxy Parameters**

#### HTTP Proxy URL

Enter a proxy server that the reader will use when accessing a URL dataset (for example, `www.someproxy.net`).

#### HTTP Proxy Port

Enter the port number of the proxy server indicated above (for example, `8080`).

This field is ignored if the HTTP Proxy URL has not been specified.

#### HTTP Proxy Username

Enter the username to use when accessing a password-protected proxy server.

This field is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Password or HTTP Proxy Authentication Method fields.

#### HTTP Proxy Password

Enter the password to use when accessing a password-protected proxy server.

This field is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Username or HTTP Proxy Authentication Method fields.

### HTTP Proxy Authentication Method

Specify the authentication method (either Basic or Digest) to use when accessing a password-protected proxy server.

This field is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Username or HTTP Proxy Password fields.

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **JSON (JavaScript Object Notation) Writer Parameters**

### **Feature Type Parameters**

#### Feature Type Key Name

Specifies the JSON object key whose value will become the feature type of the FME feature produced from the object. If no value is provided, then a default value of `json_featuretype` will be used.

### **Geometry Parameters**

#### Geometry Key Name

Specifies the JSON object key whose value contains the geometry of the FME feature produced from the object. If no value is provided, then a default value of `json_geometry` is used.

#### Geometry Format

Specifies the geometry format that the reader should use when converting the value of the Geometry key name into FME geometry. If no value is provided, then a default value of `GeoJSON` is used.

### **Writer Parameters**

#### Output Character Set

The character set encoding in which the GeoJSON text will be written. If no character set is specified, the GeoJSON text will be written in the UTF-8 character set.

#### Write 'null' for Attributes with No Value

Specifies whether or not the object containing an FME feature's attributes should contain a key for attributes for which the feature has no value. If the value is `No`, then the attribute's object will only contain keys for which the FME feature has an attribute value. If the value is `Yes`, then the output JSON objects will contain keys for every attribute in the feature type schema, and any keys for which an FME feature has no attribute value will have a null JSON value. The default value is `No`.

#### Byte Order Marker

Specifies whether or not the JSON writer should preface the JSON text with a byte order marker to indicate the endianness of the Unicode text. The default value is `No`.

## **JSONP**

### JSONP Function Name

Specifies the JSONP javascript function name that the user wants to wrap the JSON file with. JSONP (JSON with Padding) is developed as a standard for grabbing JSON from external domains, that works well with AJAX calls.

The default value is `null`. If no value is set or the default is set, then the JSON writer will output a JSON file without the JSONP padding.

## ***JPEG (Joint Photographic Experts Group) Reader Parameters***

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you select this option, the only feature type this reader will use is the reader type name, which in this case is JPEG.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **JPEG 2000 (Joint Photographic Experts Group 2000) Reader Parameters**

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you select this option, the only feature type this reader will use is the reader type name, which in this case is JPEG2000.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Kingdom 8 (OpenSpirit) Reader Parameters**

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be read. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to read from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when read.

Custom unit systems are not currently supported.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Kingdom 8 (OpenSpirit) Writer Parameters**

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be written. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to write from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when written.

Custom unit systems are not currently supported.

## **Land Victoria Incremental Update Format (IUF) Reader Parameters**

### **Feature Parameters**

#### **Extract CONNECT Features**

There can be many <CONNECT> relationships in a file. This option allows users to disable this extraction when explicit CONNECT features are not needed.

If Extract Connect Features is checked, the IUF reader determines if the IUF reader should extract the IUF XML <CONNECT> elements, which are relationships in the IUF files, as separate FME features.

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Format Notes**

This format is not available with FME Base Edition.

## ***Landmark Zycor Graphics File (ZGF) Reader Parameters***

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **LandXML Reader Parameters**

### **Reader Parameters**

#### Split Collections

Many formats are not capable of handling features with heterogeneous aggregates (e.g. an aggregate composed of a point and a polygon). To more easily support automatic translations, by default these collections will be deaggregated. In a non-automated translation, you will usually want this set to No.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Leica Independent Data Exchange Format (IDEX) Reader Parameters***

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **LizardTech MrSID Reader Parameters**

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you select this option, the only feature type this reader will use is the reader type name, which in this case is MRSID.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **MapInfo MIF/MID Reader Parameters**

### **File Contents**

#### Character Encoding

This parameter controls which character encoding is used to interpret text attributes from the MapInfo MIF/MID file. If the value is not set, then the character encoding will be automatically detected from the source file. If the value is set, it will take precedence over the automatically detected character encoding.

This parameter is useful when the character encoding information stored in the file is missing or incorrect.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***MapInfo MIF/MID Writer Parameters***

### **File Contents**

#### Character Encoding

By default, the CityGML writer produces UTF-8 encoded documents. If this parameter is set to another encoding, the writer will transcode the data to the specified encoding.

## **MapInfo SpatialWare Reader Parameters**

To use SpatialWare, you must install and configure the Informix ODBC Client software.

### **Database Connection**

Enter the ODBC data source for the database connection, the version of SpatialWare that you are using, and the username and password to connect to the database. (Some of these fields may not be required.)

#### Datasource

The name of the ODBC data source from which the features are retrieved. This is required no matter what the underlying RDBMS of SpatialWare.

#### Database Type

Identifies the type of database the SpatialWare server is operating on.

#### SpatialWare Version

The version number of the SpatialWare server you are using. This is not the version of the database itself, but rather the version of the SpatialWare DataBlade.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Table List

Enter (or browse for) the name(s) of specific database table(s) to read from.

### **Freeform Query**

#### Feature Type

The feature type name entered here must match a table in the database. This will be used as the feature type of all the features read from the table.

#### SQL Statement

Enter any freeform SQL query to query the database.

If no SQL Statement is specified, all rows in the table will be read and returned as individual features. If an SQL Statement is specified, only those rows that are selected by the clause will be read. The SQL Statement will be included in a constructed SQL statement and passed untouched to the database (and therefore may make use of any of SpatialWare's SQL/Spatial predicates).

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **MapInfo SpatialWare Writer Parameters**

Note: To use SpatialWare, you must install and configure the Informix ODBC Client software.

### **Database Connection**

#### Datasource

The name of the ODBC data source from which the features are retrieved.

#### Database Type

The type of database the SpatialWare server is operating with. This value may contain SQL Server, Informix, Oracle, or DB2.

#### SpatialWare Version

The version number of the SpatialWare server you are using. This is not the version of the database itself, but rather the version of the SpatialWare DataBlade.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

## **MapInfo TAB (MFAL) Reader Parameters**

### **FME Table**

#### Password for FME Table

This parameter is only applicable when opening datasets of Type FME. If the auxiliary FME dataset is a database reader, then MapInfo will not automatically put the password for the source database in the tab file. This parameter allows the user to specify the password dynamically. Additionally, if the password is hardcoded into the tab file, then this parameter will supercede that password.

This parameter is optional. However, if it is needed to open the FME dataset, then it will need to be provided on both generation and runtime.

### **File Contents**

#### Character Encoding

This parameter controls which character encoding is used to interpret text attributes from the MapInfo TAB file. If the value is not set, then the character encoding will be automatically detected from the source file. If the value is set, it will take precedence over the automatically detected character encoding.

This parameter is useful when the character encoding information stored in the file is missing or incorrect.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **MapInfo TAB (MITAB) Reader Parameters**

### **FME Table**

#### Password for FME Table

This parameter is only applicable when opening datasets of Type FME. If the auxiliary FME dataset is a database reader, then MapInfo will not automatically put the password for the source database in the tab file. This parameter allows the user to specify the password dynamically. Additionally, if the password is hardcoded into the tab file, then this parameter will supercede that password.

This parameter is optional. However, if it is needed to open the FME dataset, then it will need to be provided on both generation and runtime.

### **File Contents**

#### Character Encoding

This parameter controls which character encoding is used to interpret text attributes from the MapInfo TAB file. If the value is not set, then the character encoding will be automatically detected from the source file. If the value is set, it will take precedence over the automatically detected character encoding.

This parameter is useful when the character encoding information stored in the file is missing or incorrect.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **MapInfo TAB (MITAB) Writer Parameters**

### **Writer Parameters**

#### **Build Optimal Spatial Index**

Tells the MapInfo writer to create an optimal spatial index when writing. This will allow for faster spatial queries on the resulting file when using MapInfo Pro or other software that takes advantage of built-in spatial indexing. The use of this directive will, however, slow down the writing of the file.

### **File Contents**

#### **Character Encoding**

This parameter controls which character encoding is used to interpret text attributes from the MapInfo TAB file. If the value is not set, then the character encoding will be automatically detected from the source file. If the value is set, it will take precedence over the automatically detected character encoding.

This parameter is useful when the character encoding information stored in the file is missing or incorrect.

## **Maptech BSB Nautical Chart Reader Parameters**

### **Dataset Parameters**

#### Group by Filename

When this parameter is not checked, the only feature type this reader will use is the reader type name, which in this case is BSB.

When the parameter is checked, the feature type of each dataset is the filename (without the path or the extension) of the dataset.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Marconi PlaNet Reader Parameters***

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Metria AutoKa Transfer File (FF) Reader Parameters***

### **Polygons**

#### Fix Self-intersecting Polygons

Checking this box, causes self-intersecting polygons to be broken up into non-intersecting polygons.

### **Parameter File**

#### Parameter File to Create

This setting gives the name of the file that is used as a parameter file. This file is created by the FF reader and is used to store many metadata values for future use with other formats.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Metria AutoKa Transfer File (FF) Writer Parameters***

### **Writer Parameters**

#### Parameter File to Read

Browse to select a parameter file (which contains metadata). If you choose not to select a file, FME will use default values.

## **Microsoft Bitmap (BMP) Reader Parameters**

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you do not select this option, the only feature type this reader will use is the reader type name, which in this case is BMP.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Microsoft Excel Reader Parameters**

### **Excel Connection**

#### File Path

This is the file name of the Microsoft Excel workbook.

### **Constraints**

#### Table List

Click the Browse button to select tables for export.

After you click the Browse button, a search window appears while the system compiles a table list from the database. Once the table list appears, you can select one or more tables, and then click the OK button to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

This optional specification is used to limit the rows read by the reader from each table.

#### Show Named Ranges

Controls whether the reader will interpret named ranges as being valid feature types.

If this box is checked, then every named range will appear as a unique feature type. The names of these feature types will be the name of the named range, followed by an asterisk (\*) character.

If this box is not checked, then named ranges will not appear as feature types.

Note: Each worksheet always appears as a unique feature type.

#### Field Names on First Row

Controls whether the reader will interpret the first row of each column as field names or as data.

If this box is checked, then the first row of every table will be used as field names.

If this box is not checked, then the first row of every table will be used as data. Field names will be automatically generated using the name F1 for the first column, F2 for the second, and so on.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## ***Microsoft Excel Writer Parameters***

### **Excel Version**

#### Excel Version

Tells the MS Excel writer what version of workbook should be created. If the workbook already exists, the writer will automatically detect and use the correct version.

## **Microsoft MapPoint Web XML Reader Parameters**

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Microsoft Windows Azure Reader Parameters**

### **Connection Parameters**

#### Storage Service Name

The service name for accessing the Windows Azure storage account that contains the tables to be read. For example, `http://<storage service>.cloudapp.net`.

#### Primary Access Key

Specifies the primary access key for accessing the Microsoft Windows Azure Storage service.

### **Table Name**

#### Storage Table Name

Specifies the name of the table to read data from. The table name can be entered manually or chosen from a list of tables accessible by the account specified by the Storage Service Name.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## **Microsoft Windows Azure Writer Parameters**

### **Connection Parameters**

#### **Storage Service Name**

The service name for accessing the Windows Azure storage account. For example, `http://<storage service>.cloudapp.net`.

#### **Primary Access Key**

This specifies the primary access key for accessing the Microsoft Windows Azure Storage service.

## **Microsoft Windows Azure OGD I Reader Parameters**

### **Connection Parameters**

#### Storage Service Name

The service name for accessing the Windows Azure storage account that contains the tables to be read. For example, `http://<storage service>.cloudapp.net`.

#### Primary Access Key

Specifies the primary access key for accessing the Microsoft Windows Azure Storage service.

### **Table Name**

#### Storage Table Name

Specifies the name of the table to read data from. The table name can be entered manually or chosen from a list of tables accessible by the account specified by the Storage Service Name.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## **Microsoft Windows Azure OGD I Writer Parameters**

### **Connection Parameters**

#### **Storage Service Name**

The service name for accessing the Windows Azure storage account. For example, `http://<storage service>.cloudapp.net`.

#### **Primary Access Key**

This specifies the primary access key for accessing the Microsoft Windows Azure Storage service.

## **MS Access Database Reader Parameters**

### **Database Connection**

**Database Path:** The file name of a Microsoft Access Database (.mdb or .accdb) is used as the input dataset name. This field will be populated with this information when you click the Parameters button.

**Password:** The password used to access the database. It can be omitted for Access databases without password protection.

Please note that databases associated with a Microsoft Access workgroup are not supported.

### **Constraints**

**Table List:** Enter (or browse for) the name(s) of specific database table(s) to extract.

**WHERE Clause:** Enter any SQL *where* clause that constrains the attributes of the layers selected in the layer list. If this is not specified, then all the rows are returned.

## ***MS Access Database Writer Parameters***

### Database Connection

**Password:** The password used to access the database. For existing databases, it may be omitted for Access databases without password protection. If the database does not exist, then the newly created Microsoft Access database will be protected by this password.

Please note that databases associated with a Microsoft Access workgroup are not supported.

**Version:** Select the version of the database to be created. If the database file already exists, the writer will automatically detect and use the correct version. Valid values are:

- 2000/2002/2003 (default)
- 95/97
- 2.0

If the database file already exists, the writer will automatically detect and use the correct version.

## ***MS Access Excel ADO Reader Parameters***

### **Database Connection**

#### Database Path

Select the location of the database to be used.

#### Password

The password used to access the database. It can be omitted for Access databases without password protection.

### **Constraints**

#### Table List

Enter (or browse for) the name(s) of specific database table(s) to read from.

#### WHERE Clause

Enter any SQL where clause that constrains the attributes of the layers selected in the layer list (for example, NUM-LANES=2).

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## ***MS Access Excel ADO Writer Parameters***

### **Database Connection**

#### **Password**

The password to access the database. For existing databases, it may be omitted for Access databases without password protection. If the database does not exist, then the newly created Microsoft Access database will be protected by this password.

#### **Version**

Tells the MS Access writer what version of database should be created. If the database file already exists, the writer will automatically detect and use the correct version.

## **MS SQL Server Non-Spatial Reader Parameters**

### **Database Connection**

#### Server

The host name of the MS SQL Server.

#### Database

The name of the database to access.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Use Windows Authentication

Specifies whether Windows Authentication should be used to authenticate with the database. If this option is selected, the Username and Password fields are ignored.

### **Constraints**

#### Table List

Enter (or browse for) the name(s) of specific database table(s) to extract.

#### WHERE Clause

This optional specification is used to limit the rows read by the reader from each table. This example selects only the features whose lengths are more than 2000:

```
LENGTH > 2000
```

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## ***MS SQL Server Non-Spatial Writer Parameters***

### **Database Connection**

#### Server

The host name of the MS SQL Server.

#### Dataset

The name of the database to access.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Use Windows Authentication

Specifies whether Windows Authentication should be used to authenticate with the database. If this option is selected, the Username and Password fields are ignored.

## **MS SQL Server Spatial Reader Parameters**

### **Database Connection**

#### Server

The host name of the MS SQL Server.

#### Database

The name of the database to access.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Use Windows Authentication

Specifies whether Windows Authentication should be used to authenticate with the database. If this option is selected, the Username and Password fields are ignored.

### **Constraints**

#### Table List

Enter (or browse for) the name(s) of specific database table(s) to extract.

#### WHERE Clause

This optional specification is used to limit the rows read by the reader from each table. This example selects only the features whose lengths are more than 2000:

```
LENGTH > 2000
```

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***MS SQL Server Spatial Writer Parameters***

### **Database Connection**

#### Server

The host name of the MS SQL Server.

#### Database

The name of the database to access.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Use Windows Authentication

Specifies whether Windows Authentication should be used to authenticate with the database. If this option is selected, the Username and Password fields are ignored.

### **Spatial Parameters**

#### Spatial Type

Specifies whether to write geometry (planar data) or geography (geodetic data) when writing to tables. This parameter works only in combination with the Spatial Column parameter.

#### Spatial Column

Specifies the geometry or geography column to use when writing to tables. This parameter works only in combination with the Spatial Type parameter.

## ***Multiple Source Datasets***

If you want to add more source datasets that are in the same format as the existing source dataset in your workspace, follow the instructions in [Merging Similar Datasets](#).

**To extend the input of your workspace to include multiple source datasets that are in a different format than your existing source dataset:**

1. You can type directly in the Directory field, and use wildcards to include all files of a specific format. For example

C:\\*\*\\*.dgn

will merge all the .dgn files on your C drive. You can also click **Add Dir** to browse for a specific directory name. Click the **Subfolders** box to also include all subfolders below that directory. If you know that files *are the same schema*, check the **Identical Schemas** box (this can have an effect on overall processing time if you have many datasets).

2. Specify settings and the coordinate system (if applicable).
3. Click OK.

The log pane will display processing information, and the dataset will appear in the source area of your workspace.

## **MySQL Non-Spatial Reader Parameters**

### **Database Connection**

#### Host

Contains the name or IP address of the machine that is running the MySQL database. If the database resides on the local machine then this parameter should be set to 'localhost' or the name or IP address of the local machine.

#### Port

When connecting remotely, this specifies the TCP/IP port on which to connect to the DBMS service. The default port is 3306.

#### Database

This field is populated with the Dataset containing the name of the PostgreSQL database.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Table List

Enter (or browse for) the name(s) of specific database table(s) to import.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## ***MySQL Non-Spatial Writer Parameters***

### **Database Connection**

#### Host Name

This specifies the machine running the MySQL DBMS as either an IP address or host name. The database must have proper permissions and be set up to accept TCP/IP connections if connecting from a remote machine.

#### Port

Contains the TCP/IP port on used to connect to the host running the MySQL database. The default port is 3306.

#### Database

When you enter the file name of the Database in the Destination Dataset field, the Database field will be automatically populated in the Parameters box.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

## **MySQL Spatial Reader Parameters**

### **Database Connection**

#### Host

This specifies the machine running the MySQL DBMS as either an IP address or host name. The database must have proper permissions and be set up to accept TCP/IP connections if connecting from a remote machine.

#### Port

When connecting remotely, this specifies the TCP/IP port on which to connect to the DBMS service. The default port is 3306.

#### Database

This field is automatically populated with the information specified in the Input Dataset field, which specifies the name of the MySQL database. The database must exist in the DBMS. (This can be verified by executing the query SHOW DATABASES in the MySQL query interpreter.)

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Table List

After you have completely specified the database connection, click the Browse button to select tables for import. A connection window appears while the system compiles a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***MySQL Spatial Writer Parameters***

### **Database Connection**

#### Host

This specifies the machine running the MySQL DBMS as either an IP address or host name. The database must have proper permissions and be set up to accept TCP/IP connections if connecting from a remote machine.

#### Port

When connecting remotely, this specifies the TCP/IP port on which to connect to the DBMS service. The default port is 3306.

#### Database

This field is automatically populated with the information specified in the Input Dataset field, which specifies the name of the MySQL database. The database must exist in the DBMS. (This can be verified by executing the query SHOW DATABASES in the MySQL query interpreter.)

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

## National Imagery Transmission Format (NITF) Reader Parameters

### Dataset Parameters

#### Group by Filename

**No (default):** The only feature type this reader will use is the reader type name, which in this case is NITF.

**Yes:** The feature type of each dataset is the filename (without the path or the extension) of the dataset.

#### Group by Subdataset Name

The values of Group by Filename and Group by Subdataset name together provide four different options for the feature type names

Group by Filename	Group by Subdataset	Feature Type Name	Example
No	No	<reader_type_name>	NITF
No	Yes	<subdataset_name>	SUBDATASET_ IMAGE_1
Yes	No	<filename>	A0132
Yes	Yes	<filename_subdataset_name>	A0132_ SUBDATASET_ IMAGE_1

#### Apply GCPs

**No (default):** The GCP information is preserved as properties on the raster geometry.

**Yes:** The GCP information, including a GCP projection, will be read from the file and applied to the raster data as an affine transformation.

### GCP Interpolation Method

Choose from NearestNeighbor (default), Bilinear or Bicubic.

### Schema Attributes

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### Search Envelope

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input

features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **NEN 3610 (GML) Reader Parameters**

### **Schema Parameters**

#### **NEN 3610 Sector Schema**

A GML instance document specifies the namespace and the location of its application schema through its root element `xsi:schemaLocation` attribute. This field allows the GML reader to use a different GML schema document from the one specified in the `xsi:schemaLocation` attribute.

The XML Schema specification states that the `xsi:schemaLocation` attribute value consists of a set of pairs: The first member of each pair is the namespace for which the second member is the hint describing where to find an appropriate schema document. The presence of this hint does not require the processor to obtain or use the cited schema document, however, the processor is free to use other schemas obtained by other suitable means.

Note: This only takes effect if the target namespace of the dataset is not in the Safe fixed schema namespace <http://www.safe.com/xml/schemas/FMEFeatures>. See the GML chapter of the FME Readers and Writer manual for more information.

### **GML Properties**

#### **Read Predefined GML Properties**

Specifies whether the default and optional GML feature properties, name and description, should be read. The default value is Yes.

### **Proxy**

#### **HTTP Proxy Address**

Enter a proxy server that the reader will use when accessing a URL dataset (for example, `www.someproxy.net`).

#### **HTTP Proxy Port**

Enter the port number of the proxy server indicated above (for example, 8080). This field is ignored if the HTTP Proxy URL has not been specified.

#### **HTTP Proxy User**

Enter the username to use when accessing a password-protected proxy server. This field is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Password or HTTP Proxy Authentication Method fields.

#### **HTTP Proxy Password**

Enter the password to use when accessing a password-protected proxy server. This field is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Username or HTTP Proxy Authentication Method fields.

#### **HTTP Proxy Authorization Method**

Specify the authentication method (either Basic or Digest) to use when accessing a password-protected proxy server. This field is ignored if values are missing from any of the HTTP Proxy URL, HTTP Proxy Username or HTTP Proxy Password fields.

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Netezza Non-Spatial Reader Parameters***

### **Database Connection**

#### ODBC DSN

This Specifies the name of the Netezza ODBC DSN. The DSN must point to a database that exists in Netezza.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Table List

Enter (or browse for) the name(s) of specific database table(s) to read from.

## ***Netezza Non-Spatial Writer Parameters***

### **Database Connection**

#### ODBC DSN

This Specifies the name of the Netezza ODBC DSN. The DSN must point to a database that exists in Netezza.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

## ***Netezza Spatial Reader Parameters***

### **Database Connection**

#### **ODBC DSN**

This Specifies the name of the Netezza ODBC DSN. The DSN must point to a database that exists in Netezza.

#### **Username and Password**

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### **Table List**

Enter (or browse for) the name(s) of specific database table(s) to read from.

### **Search Envelope**

#### **Use Search Envelope**

If you wish to extract only a portion of the area covered by the layers you have selected, check this box to define the spatial extent of the features to be read from the layer. Only features that have relationships specified by Minimum X and Y and Maximum X and Y with the area defined by the bounding box are read. If this is not supplied, all features will be read.

## ***Netezza Spatial Writer Parameters***

### **Database Connection**

#### ODBC DSN

This Specifies the name of the Netezza ODBC DSN. The DSN must point to a database that exists in Netezza.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

## Network Common Data Form (netCDF) Reader Parameters

### Dataset Parameters

#### Group by Filename

**No (default):** The only feature type this reader will use is the reader type name, which in this case is NETCDF.

**Yes:** The feature type of each dataset is the filename (without the path or the extension) of the dataset.

#### Group by Subdataset Name

The values of Group by Filename and Group by Subdataset name together provide four different options for the feature type names

Group by Filename	Group by Subdataset	Feature Type Name	Example
No	No	<reader_type_name>	NETCDF
No	Yes	<subdataset_name>	SUBDATASET_ IMAGE_1
Yes	No	<filename>	A0132
Yes	Yes	<filename_subdataset_name>	A0132_ SUBDATASET_ IMAGE_1

#### Reverse Vertical Order

NetCDF data may be ambiguous about whether the first row of data in the file corresponds to the top or bottom row of the raster. If data appears upside-down when reading a file, select this option to correct the problem.

### Schema Attributes

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### Search Envelope

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **NGDC Hydrographic Surveys Data Exchange (HYD93) Reader Parameters**

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***NGDC Hydrographic Surveys Data Exchange (HYD93) Writer Parameters***

### **File Format**

#### Output File Format

Select the preferred output file format.

## ***Northgate StruMap Reader Parameters***

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Northrop Grumman C2PC Magic (BETA) Reader Parameters***

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***ODBC 3.x Database Reader Parameters***

### **Database Connection**

#### Database

When you enter the Database in the Input Dataset field, the Database field will be automatically populated in the Parameters box.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Table List

Enter (or browse for) the name(s) of specific database table(s) to import.

#### WHERE Clause

Any SQL where clause can be applied to the columns of a table to limit the resulting features.

The example below selects only the features whose lengths are more than 2000

```
LENGTH > 2000
```

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## ***ODBC 3.x Database Writer Parameters***

### **Database Connection**

#### Database

When you enter the Database in the Destination Dataset field, the Database field will be automatically populated in the Parameters box.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

## **OpenWorks R2003/R5000 (OpenSpirit) Reader Parameters**

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be read. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to read from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when read.

Custom unit systems are not currently supported.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **OpenWorks R2003/R5000 (OpenSpirit) Writer Parameters**

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be written. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to write from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when written.

Custom unit systems are not currently supported.

## OpenStreetMap (OSM) Reader Parameters

The OpenStreetMap (OSM) is a collaborative mapping project for creating a free and editable map of the whole world. Further information on OSM can be found at <http://www.openstreetmap.org>.

OpenStreetMap data can be downloaded in a topologically structured XML format. The data primitives in an OSM data file are nodes, ways and relations.

- A *node* is a lat/lon pair.
- A *way* is a list of at least two node references describing a linear features. Ways can be closed, in which case the first and the last node are identical. Areas are not explicitly represented in OSM but are identified via community approved tags.
- *Relations* are a group of zero or more primitives with an associated role.

All data in OSM are in the WGS-84 datum.

OSM has no explicit schema (feature type) definitions. Each node, way, and relation can have an arbitrary number of attributes, called *tags* in OSM. A tag is composed of a key and a value. The OpenStreetMap wiki does define a set of recommend tags that can be used to classify the nodes and ways into higher level groupings, i.e., feature types. The community-defined feature types can be found at [http://wiki.openstreetmap.org/index.php/Map\\_Feature](http://wiki.openstreetmap.org/index.php/Map_Feature).

The FME OSM reader settings can help influence the classification of the OSM data being read.

### Feature Types

#### Feature Types

You can choose either **OSM Community-Approved Feature Types**, or **User-defined Feature Types**. This selection determines which areas of the dialog below are enabled or disabled.

#### OSM Community-Approved Feature Types

This option allows you to specify the predefined FME factory pipeline that categorizes the nodes, ways, and relations into the recommended interpretations found in [http://wiki.openstreetmap.org/index.php/Map\\_Features](http://wiki.openstreetmap.org/index.php/Map_Features). The options are:

##### Use Basic Element Feature Types Only

The OSM reader will leave the OSM nodes, ways, and relations unprocessed.

##### Use Broad Feature Types

The OSM reader will use the `<FMEInstallDir>\xml\osm\schemaMap\osm_broad_schema.fmi` to categorize the OSM data primitives into broader categories. The `osm_broad_schema.fmi` contains a sequence of FME factories that would assign a node, way, or relation an specific feature according to the existence of certain tag keys. For example, any way with a 'highway' tag key regardless of its tag value will be categorized into a highway feature type.

##### Use Specific Feature Types

The OSM reader will use the `<FMEInstallDir>\xml\osm\schemaMap\osm_specific_schema.fmi` to categorize the OSM data primitives into more detailed categories. The `osm_specific_schema.fmi` pipeline contains a `SchemaMappingFactory` that loads a CSV file, `<FMEInstallDir>\xml\osm\schemaMap\osm_specific_schema.fmi`, to help it categorize the OSM data primitives according to the tag key and tag value. For example, any OSM way

primitive with a 'highway' tag key and tag value of 'primary' will be categorized into a highway\_primary feature type.

## User-Defined Feature Types

### Custom Pipeline File

This option is enabled when the Feature Type Definitions is set to User-defined Feature Types. It points to a user-defined factory pipeline (\*.fmi file) that can be used to transform the OSM nodes, ways and relations into user-defined feature types.

## Auto-Close Area Features

### Close Off Default Areas Even if 'area' Tag is Not Set

Specifies whether the OSM reader should create area geometries for OSM ways, whose first and last point equal, even if their "area" tag is not appropriately set. The default is Yes.

### Specify Custom Area Feature List

This option relies on a text file whose content lists the way feature types that should be converted into area geometries when their first and last coordinates equal.

The format of the text file is simple: each feature type that should be considered a possible area is listed on a separate line. For example files, see <FMEInstallDir>\xml\osm\AreaFeatureLists\osm\_specific\_areas.txt and <FMEInstallDir>\xml\osm\AreaFeatureLists\osm\_broad\_areas.txt.

## ***OpenStreetMap (OSM) XML Writer Parameters***

### **Decimal Points**

#### Number of Decimal Points

Controls the number of decimal points that will be written in the OSM file for the lat/long coordinates of OSM points. The default is 7 decimal points.

## **Oracle Non-Spatial Reader Parameters**

### **Database Connection**

Select the database to be used. Depending on your database, you may also have to enter a username and password.

#### Service

Specifies the SQL/Net service name for the Oracle database. The service must have been set up in the local SQL/Net configuration.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Workspace

The name of the Oracle Workspace Manager workspace which will be used by the reader. All tables read by the reader will be read using the same workspace. If this parameter is omitted, or left blank, the default LIVE workspace will be used.

### **Constraints**

#### Remove Schema Qualifier

Specifies whether to keep or remove the schema qualifier.

The full name of a table in an Oracle database is of the format <schema\_name>.<table\_name>. Checking this box indicates that the reader should return the table name without any prefixes. This is useful when creating a workspace that will be passed on to another organization using the same table names.

#### Table List

Enter (or browse for) the name(s) of specific database table(s) to read from.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **OpenWorks R2003/R5000 (OpenSpirit) Reader Parameters**

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be read. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to read from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when read.

Custom unit systems are not currently supported.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Oracle Non-Spatial Writer Parameters**

### **Database Connection**

#### Service

Specifies the SQL/Net service name for the Oracle database. The service must have been set up in the local SQL/Net configuration.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Workspace

The name of the Oracle Workspace Manager workspace that will be used by the writer. All tables will be written using the same workspace. If this parameter is omitted, or left blank, the default LIVE workspace will be used.

## Oracle Spatial GeoRaster Reader Parameters

Note: The source dataset must be set to the Oracle service name.

### Database Connection

#### Service

Identifies the Oracle SQL\*Net connection route to the database. If you leave this field blank, your default database connection will be used.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Workspace

The name of the Oracle Workspace Manager workspace that will be used by the reader. All tables will be read using the same workspace. If this parameter is omitted, or left blank, the default LIVE workspace will be used.

### Constraints

#### Remove Schema Qualifier

Specifies whether to keep the schema qualifier. The full name of a table in an Oracle database is of the format <schema\_name>.<table\_name>. Checking this box indicates that the reader should return the table name without any prefixes. This is useful, for example, when creating a workspace that will be passed on to another organization using the same table names.

When this box is checked during the generation of a workspace, the source feature types will be the table names without any prefix; otherwise, they will contain the owner name as a prefix. It is recommended that you do not change this setting after generating the workspace as it is possible for no features to be successfully passed onto the writer (since the writer is expecting feature types with different names).

Note: Even when this option is checked, if the table is owned by a user other than the current user, the <owner\_name> prefix will not be dropped so that the reader will find the correct table; however, the <data-base\_name> prefix will still be dropped.

#### Table List

After you have completely specified the database connection, click the Browse button to select tables for import. A connection window appears while the system compiles a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

Enter any SQL *where* clause that constrains the attributes of the layers selected in the layer list (for example, NUM-LANES=2).

### Schema Attributes

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Format Notes**

This format is not available with FME Base Edition.

## **Oracle Spatial GeoRaster Writer Parameters**

Note: The destination dataset must be set to Oracle.

### **Database Connection**

#### **Service**

Identifies the Oracle SQL\*Net connection route to the database. If you leave this field blank, your default database connection will be used.

#### **Username and Password**

Enter the username and password to access the database, user account, or wherever authentication is required.

#### **Workspace**

The name of the Oracle Workspace Manager workspace that will be used by the writer. All tables will be written using the same workspace. If this parameter is omitted, or left blank, the default LIVE workspace will be used.

## Oracle Spatial Object Reader Parameters

Note: The source dataset must be set to the Oracle service name.

### Database Connection

#### Service

Identifies the Oracle SQL\*Net connection route to the database. If you leave this field blank, your default database connection will be used.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Workspace

The name of the Oracle Workspace Manager workspace that will be used by the reader. All tables will be read using the same workspace. If this parameter is omitted, or left blank, the default LIVE workspace will be used.

### Constraints

#### Remove Schema Qualifier

Specifies whether to keep the schema qualifier. The full name of a table in an Oracle database is of the format <schema\_name>.<table\_name>. Checking this box indicates that the reader should return the table name without any prefixes. This is useful, for example, when creating a workspace that will be passed on to another organization using the same table names.

When this box is checked during the generation of a workspace, the source feature types will be the table names without any prefix; otherwise, they will contain the owner name as a prefix. It is recommended that you do not change this setting after generating the workspace as it is possible for no features to be successfully passed onto the writer (since the writer is expecting feature types with different names).

Note: Even when this option is checked, if the table is owned by a user other than the current user, the <owner\_name> prefix will not be dropped so that the reader will find the correct table; however, the <database\_name> prefix will still be dropped.

#### Read 3D Polygons as Faces

Controls whether 3D polygons are read by Oracle Spatial as 3D face geometries or as regular polygons.

#### Table List

After you have completely specified the database connection, click the Browse button to select tables for import. A connection window appears while the system compiles a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

Enter any SQL *where* clause that constrains the attributes of the layers selected in the layer list (for example, NUMLANES=2).

### MapInfo Symbology

#### Apply MapInfo Symbology

Checking this box allows the reader to parse MapInfo style and index columns.

### Style Column

This optional generation parameter specifies the name of the MapInfo symbology style column. If a column by this name is found, it will be omitted from the schema of the generated source feature type, and the `oracle_mapinfo_symbology_style_column` DEF line parameter will be set to the name of this column. The default column name is `MI_STYLE`.

### Index Column

This optional generation parameter specifies the name of the MapInfo symbology index column. If a column by this name is found, it will be omitted from the schema of the generated source feature type. The default column name is `MI_PRINX`.

### Search Envelope

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

### **Format Notes**

This format is not available with FME Base Edition.

## Oracle Spatial Object Writer Parameters

Note: The source dataset must be set to the Oracle service name.

### Database Connection

#### Service

Identifies the Oracle SQL\*Net connection route to the database. If you leave this field blank, your default database connection will be used.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

#### Workspace

The name of the Oracle Workspace Manager workspace that will be used by the writer. All tables will be written using the same workspace. If this parameter is omitted, or left blank, the default LIVE workspace will be used.

### Layer Parameters

#### Contains 3D Geometry

Oracle Spatial (object model) directly supports composite surfaces, 3D polygons and rectangles. Writing of 3D surfaces and solids is available only for Oracle 11g. If the Oracle Spatial (object model) writer detects a version of Oracle Database older than version 11g, surface features will automatically be downgraded to a 2D representation prior to writing.

#### Contains Measures

This directs the writer to write measures to the destination table. When this box is checked and the incoming feature does not have any measures, then null values are written. This option applies when writing to existing tables.

Note that if you are updating an existing table, ensure that the metadata table has proper entry of the measures for that table. The writer does not perform checks on existing tables for their measures support. It writes measures based on the Contains Measures option. Therefore, if you attempt to write measures to an existing table that originally did not support measures, this may result in datasets that do not pass Oracle's validity tests.

However, when creating new tables, the writer takes care of everything including writing to the metadata table. The above directive is ignored when writing to points, multipoints, multiareas and heterogeneous collections, as Oracle does not support measures for these geometries. Also note that support for measures is provided only for enhanced geometry.

#### Minimum and Maximum X, Y and Z

These values apply to the entire layer – features with coordinate values outside this range will not be correctly indexed.

#### Minimum and Maximum M

Specifies the minimum and the maximum measure values expected in the dataset.

#### Geometry Column

Traditionally, FME would assign a GEOM name to all geometry columns stored in Oracle databases in all generated

workspace and mapping files. This gives you the option of modifying what the geometry column will be named in tables created by FME.

### **Spatial Index Creation**

Indicates whether or not indices are to be created as part of the data load. If No is specified, no index creation will be done.

### **Format Notes**

This format is not available with FME Base Edition.

## Oracle Spatial Relational Reader Parameters

Note: The source dataset must be set to the Oracle service name.

### Database Connection

#### Service

Identifies the Oracle SQL\*Net connection route to the database. If you leave this field blank, your default database connection will be used.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### Constraints

#### Remove Schema Qualifier

Specifies whether to keep the schema qualifier. The full name of a table in an Oracle database is of the format <schema\_name>.<table\_name>. Checking this box indicates that the reader should return the table name without any prefixes. This is useful, for example, when creating a workspace that will be passed on to another organization using the same table names.

When this box is checked during the generation of a workspace, the source feature types will be the table names without any prefix; otherwise, they will contain the owner name as a prefix. It is recommended that you do not change this setting after generating the workspace as it is possible for no features to be successfully passed onto the writer (since the writer is expecting feature types with different names).

Note: Even when this option is checked, if the table is owned by a user other than the current user, the <owner\_name> prefix will not be dropped so that the reader will find the correct table; however, the <data-base\_name> prefix will still be dropped.

#### Table List

After you have completely specified the database connection, click the Browse button to select tables for import. A connection window appears while the system compiles a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

Enter any SQL where clause that constrains the attributes of the layers selected in the layer list (for example, NUM-LANES=2).

### Schema Attributes

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.

- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

### **Format Notes**

This format is not available with FME Base Edition.

## **Oracle Spatial Relational Writer Parameters**

Note: The source dataset must be set to Oracle.

### **Database Connection**

#### Service

Identifies the Oracle SQL\*Net connection route to the database. If you leave this field blank, your default database connection will be used.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Layer Parameters**

#### Contains 3D Geometry

Oracle Spatial directly supports composite surfaces, 3D polygons and rectangles. Writing of 3D surfaces and solids is available only for Oracle 11g. If the Oracle Spatial writer detects a version of Oracle Database older than version 11g, surface features will automatically be downgraded to a 2D representation prior to writing.

#### Minimum and Maximum X, Y and Z

These values apply to the entire layer – features with coordinate values outside this range will not be correctly indexed.

#### Indexing Levels

Control the density of the tessellation used when the spatial index is created for the level. Larger numbers produce finer-grained spatial indexes, which take longer to create.

Tip: Consult the Oracle Spatial documentation for a complete description of this parameter.

### **Spatial Index Creation**

Controls the spatial index creation.

#### None

The FME will not create any indexes for the loaded data.

#### Incremental

The FME creates an index only for the features that were loaded during the translation. This is useful when you are adding data to an existing table.

#### Populate

FME creates a spatial index for the entire table. This is useful only during the first load of data into the table, or for a previous table that has not yet been indexed.

## ***OS (GB) MasterMap Reader Parameters***

### Topological Polygons

OS MasterMap polygonal information can be either independently or topologically structured. By default, the OS MasterMap reader does not perform additional processing to assemble topological polygonal data: this avoids unnecessary computation when reading independent polygon datasets.

Click Independent or Topological to explicitly turn on or off topological processing.

## ***OS (GB) NTF Reader Parameters***

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***OS VectorMap Local Reader Parameters***

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## **PCI Geomatics Database File (PCIDSK) Reader Parameters**

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you do not select this option, the only feature type this reader will use is the reader type name, which in this case is PCIDSK.

#### Apply GCPs

**No (default):** The GCP information is preserved as properties on the raster geometry.

**Yes:** The GCP information, including a GCP projection, will be read from the file and applied to the raster data as an affine transformation.

### **GCP Interpolation Method**

Choose from NearestNeighbor (default), Bilinear or Bicubic.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***PenMetrics Reader Parameters***

### **Group Entities By**

Group entities by layer, geometry, or build attribute schema by scanning extended entity data.

### **Blocks**

#### Expand into Entities

Check this box if you want to explode blocks and return the entities that form the components of the block as separate features.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Pervasive PSQL Reader Parameters***

### **Database Connection**

#### Database

This is the data source name. When you enter the Database in the Source Dataset field, the Database field will be automatically populated in the Settings box.

### **Constraints**

#### Table List

After you have completely specified the database connection, click the Browse button to select tables for import. A connection window appears while the system compiles a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

Enter any SQL where clause that constrains the attributes of the layers selected in the layer list (for example, NUM-LANES=2).

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Format Notes**

This format is not available with FME Base Edition.

## ***Pervasive PSQL Writer Parameters***

### **Database Connection**

#### Service

This is the ODBC data source name.

## **Petra 3 (OpenSpirit) Reader Parameters**

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be read. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to read from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when read.

Custom unit systems are not currently supported.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Petra 3 (OpenSpirit) Writer Parameters**

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be written. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to write from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when written.

Custom unit systems are not currently supported.

## ***PHOCUS PHODAT Reader Parameters***

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***PNG Rasterizer Writer Parameters***

### **Image Size**

#### Width

Specifies the image width in pixels.

#### Height

Specifies the image height in pixels.

### **Raster Settings**

#### Force Square Pixels

Check to force square pixels. If you check the box, then the aspect ratio of the input data is preserved but some of the output image may be unused. To stretch the data to fill the image, do not check this box.

## **Point Cloud XYZ Reader Parameters**

### **Field Separation**

#### Separator Character

Choose the separator that will divide the fields in the file.

#### Remove Duplicate Separators

If this box is checked, then multiple contiguous delimiters are treated as a single delimiter; otherwise, each delimiter is treated as if it delimits a different field.

#### File Has Field Names

If the field or column names of the table are specified in the file, check this value and the names will be extracted from the file. Otherwise, the columns of the table are given default names (i.e., col0, col1, ... , colN). The default value of this parameter is unchecked.

#### Field Names Follow Header

If the column/field names is AFTER the header information instead of BEFORE, then you can set this option. Otherwise, by default, the first line of the file will be used as the column/field names.

Notes: This parameter is ignored if *File Has Field Names* is not checked. If *Field Names Follow Header* is checked, *Lines to Skip* should also be set to skip at least 1 row, or the first row will be also be processed as a feature.

### **Lines to Skip**

#### Header

This indicates the number of lines to skip at the top of the file. By default, no lines are skipped. Each line skipped is logged to the log file. This is useful if the file contains a header line of field names or other descriptive material (like comments) that should be skipped.

#### Footer

This field indicates the number of footer lines to skip at the bottom of the file. By default, no footer lines are skipped. Each footer line skipped is logged to the log file. This is useful if the file contains a footer line of descriptive material that should be skipped.

### **File Content**

#### Character Encoding

By default, this is set to UTF-8 encoded documents. If this parameter is set to another encoding, the reader will transcode the data to the specified encoding.

#### Point Cloud Component Map

This maps each data column in the Point Cloud XYZ file to a component of a point within the point cloud.

### **File Preview**

Displays a preview of the data, if available.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Point Cloud XYZ Writer Parameters***

### **Output File Parameters**

#### Extension

Enter the file name extension for the output file. The default is .csv

#### Separator Character

The single character or tab character specified as the separator for the values on a line.

#### Output Field Names

If checked, the field names will be written to the first line of the output file as column titles.

### **Point Cloud Components To Output**

Specify the point components to be written and the order of the fields in the output XYZ file.

## **Portable Network Graphics (PNG) Reader Parameters**

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you do not select this option, the only feature type this reader will use is the reader type name, which in this case is PNGRASTER.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Portable Network Graphics (PNG) Writer Parameters***

### **Force Square Pixels**

Check to force square pixels. If you check the box, then the aspect ratio of the input data is preserved but some of the output image may be unused. To stretch the data to fill the image, do not check this box.

### **Image Size**

Specify the image size in pixels.

### **Viewer Program**

Optional: Click the Browse button and select the filename of a GIF viewing program. When the FME has translated the dataset, it will display the GIF image using the selected viewer.

## PostGIS Reader Parameters

Note: The source and destination dataset must be set to the database name.

### Database Connection

#### Host

This specifies the machine running the PostGIS/PostgreSQL ORDBMS as either an IP address or host name. The database must have proper permissions and be set up to accept TCP/IP connections if connecting from a remote machine.

#### Port

When connecting remotely, this specifies the TCP/IP port on which to connect to the ORDBMS service. The default port is 5432.

#### Database

This specifies the name of the PostGIS-enabled PostgreSQL database. The database must exist in the ORDBMS.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### Constraints

#### Table List

Enter, or browse for, the name(s) of specific database table(s) to read from.

### Schema Attributes

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### Search Envelope

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

### Troubleshooting

If the table list in the PostGIS reader Reader Parameters box does not display your table, try the following:

1. Type the table name by itself. If this works, then your table may not be properly registered in the PostGIS metadata tables or it may not have a geometry column. If this does not work, try steps 2 or 3 below.
2. Type the name with the schema prefix, i.e. public.mytable. If this works, it could mean that you likely did not specify the correct schema to search in the settings box. If this does not work, try step 3.
3. If both steps above do not work, it is possible that the table does not exist. You can verify this by looking at the table list provided by the PostgreSQL reader Reader Parameters box.

If the table list in the PostGIS reader Reader Parameters box lists your table, but you receive an error message that the table does not exist when you run the translation, then it is likely that the PostgreSQL table has been deleted without updating the PostGIS metadata tables. Orphaned metadata may continue to exist in the PostGIS metadata tables. It is suggested that the PostGIS metadata table for the geometry columns be corrected to match only existing PostgreSQL tables.

***Format Notes***

This format is not available with FME Base Edition.

## **PostGIS Writer Parameters**

Note: The source and destination dataset must be set to the database name.

### **Database Connection**

#### Host

This specifies the machine running the PostGIS/PostgreSQL ORDBMS as either an IP address or host name. The database must have proper permissions and be set up to accept TCP/IP connections if connecting from a remote machine.

#### Port

When connecting remotely, this specifies the TCP/IP port on which to connect to the ORDBMS service. The default port is 5432.

#### Database

This specifies the name of the PostGIS-enabled PostgreSQL database. The database must exist in the ORDBMS.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Table Creation**

#### Spatial Column Type

Select either geography or geometry columns for the table.

#### Spatial Column Name

Enter a name for the table.

#### Create Generic Geometry Columns

This setting applies at generation time, not at translation time. The default setting of "no" indicates that you want to create geometrically constrained geometry columns on the destination tables. For example, a POINT geometry table would be restricted only to points. Now you have the option to create generic or non-constrained geometry column types.

Effectively this means you can insert multiple geometry types into one table. Specifically the geometry column is created to have the generic type GEOMETRY and there are no constraints placed on the geometry types allowed.

#### Lower Case Attribute Names

If checked, changes the case of attribute names to lowercase.

### **Format Notes**

This format is not available with FME Base Edition.

## PostgreSQL Reader Parameters

Note: The source and destination dataset must be set to the database name.

### Database Connection

#### Host

This specifies the machine running the PostgreSQL ORDBMS as either an IP address or host name. The database must have proper permissions and be set up to accept TCP/IP connections if connecting from a remote machine.

#### Port

When connecting remotely, this specifies the TCP/IP port on which to connect to the ORDBMS service. The default port is 5432.

#### Database

Specify the name of the PostgreSQL database. The database must exist in the ORDBMS.

Note: In most cases, the Database field should be left with blank values, and the Dataset should contain the name of the PostgreSQL database.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

Note: If you are having trouble connecting to the database, ensure you can connect to the database with the host, port, database, user name, and password using psql. See PostgreSQL documentation for proper security and connection information, and for the usage of the psql utility.

### Constraints

#### Table List

Enter, or browse for, the name(s) of specific database table(s) to read from.

Note: If the table list in the PostgreSQL reader Reader Parameters box does not display your table, try typing the name with the schema prefix, i.e. public.mytable. If this works, then your search path for schemas may not be set to the desired values.

### Schema Attributes

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## **PostgreSQL Writer Parameters**

Note: The source and destination dataset must be set to the database name.

### **Database Connection**

#### Host

This specifies the machine running the PostgreSQL ORDBMS as either an IP address or host name. The database must have proper permissions and be set up to accept TCP/IP connections if connecting from a remote machine.

#### Port

When connecting remotely, this specifies the TCP/IP port on which to connect to the ORDBMS service. The default port is 5432.

#### Database

This is the name of the PostgreSQL database. The database must exist in the ORDBMS. When you enter the Database in the Destination Dataset field, the Database field will be automatically populated in the Settings box.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Table Creation**

#### Lower Case Attribute Names

If checked, changes the case of attribute names to lower case.

## **PPDM 3.7 (OpenSpirit) Reader Parameters**

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be read. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to read from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when read.

Custom unit systems are not currently supported.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Presagis .flt (OPENFLIGHT) Writer Parameters**

### **Format**

#### OpenFlight Version

The OpenFlight format version by default is 16.1 and can optionally be changed to 15.7 or 15.8.

### **Texture**

#### Output Texture Directory

The directory to write texture files referenced by the OpenFlight .flt files. The texture output directory is generally a subdirectory of the output dataset but can be any path relative to the output dataset.

All textures image files for the dataset being produced will be written to this directory. Textured appearances that are shared between feature types of the same dataset will produce OpenFlight materials in different flt files that share the same texture image file. Texture file names are based on the fme appearance name. Existing old files of the same name from another run or another dataset will be overwritten with new files of the same name.

### **Optimization**

#### Compress Geometry

By default the OpenFlight writer processes all geometry into triangles and creates an flt polygon structure for each triangle. If you choose Yes, the writer will attempt to combine adjacent state sharing triangles into triangle strips and store them in flt mesh structures. This optimization can significantly compress geometry to save space and reduce load time.

Note: If you choose Yes, make sure your OpenFlight consuming applications support the mesh structure as some viewers are known to ignore OpenFlight mesh records.

### **Coordinate System**

#### Move to Local Coordinate System

**PRJ\_ONLY:** A companion .prj file containing the coordinate system and having the same name as the .flt file will be written in the same directory as the .flt file.

**Yes:** In addition to writing the .prj file as in the PRJ\_ONLY option, a companion .fwt file with the same name as the .flt file will be written in the same directory as the .flt file, and the coordinates of all the points in the written features will be normalized to the interval [-0.5, 0.5] on the largest side of their XYZ-bounding cube.

The other dimensions will be scaled proportionally. The transformation matrix required to scale the model back to world coordinates is contained in the .fwt file. This can be used to improve precision of the written coordinates.

## ***RADARSAT-2 Reader Parameters***

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you select this option, the only feature type this reader will use is the reader type name, which in this case is RADARSAT2.

#### Group By Subdataset Name

If you select this option, the name of each dataset is the subdataset name. If you do not select this option, the name of each dataset is the reader type name.

#### Apply GCPs

If you select this option, the GCP information, including a GCP projection, will be read from the file and applied to the raster data as an affine transformation. If you do not select this option, the GCP information is preserved as properties on the raster geometry.

### **GCP Interpolation Method**

Choose from NearestNeighbor (default), Bilinear or Bicubic.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Recall 5.1/5.2 (OpenSpirit) Reader Parameters**

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be read. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to read from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when read.

Custom unit systems are not currently supported.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Recall 5.1/5.2 (OpenSpirit) Writer Parameters**

### **Query Scope Information**

#### Data Source Type

The data source type is the combination of the format name and version of a specific format to be written. These values are separated by an underscore. This parameter depends on the OpenSpirit format that you are using.

Each data source type has a separate data connector that needs to be licensed by OpenSpirit to use that format. Different version combinations are presented as unique options, since the native data model will likely have changed between versions.

#### Data Source

This parameter requires a valid Data Source Type.

It specifies the registered instance of a data store configured through OpenSpirit for a particular data source type. Click the browse button to see a list of data sources.

#### Data Model

This parameter requires a valid Data Source Type.

It specifies the data model to apply to the provided data source type. The data model indicates which fixed set of entities to use to access the data. The list of data models will be at most two entries: the native format name and the OpenSpirit common model.

Some data source types do not support native models, while others do not support the common model. Click the browse button to see a list of data model options.

#### Project

This parameter requires a valid Data Source Type and it is required for data source types that support projects.

This parameter specifies the subset of data to be retrieved from the particular entities for a provided data source type. Some data source types do not support projects. Click the browse button to see the list.

#### Entities

This parameter requires a valid Data Source Type and Data Model.

It specifies the list of entities to write from the provided data source type and data model. Click the browse button to see the list.

### **Query Context Information**

#### Unit System

This parameter specifies the units for the source feature attributes and geometry.

Valid values are Metric and Imperial. Even if the data itself is not completely consistent in the units employed for various attributes, this option implies that all types of measurements will be converted to the appropriate unit when written.

Custom unit systems are not currently supported.

## **Regional Geographic Information System (REGIS) Reader Parameters**

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***R Statistical Data (RDATA) Raster Reader Parameters***

### **Dataset Parameters**

#### Group By Filename

When this box is left unchecked, the only feature type this reader will use is the reader type name, which in this case is RDATARASTER.

When this box is checked, the feature type of each dataset is the filename (without the path or the extension) of the dataset.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***R Statistical Data (RDATA) Writer Parameters***

### Character Encoding

This optional parameter controls which character encoding is used to interpret text attributes from the file. If the value is not set, then the character encoding will be automatically detected from the source file. If the value is set, it will take precedence over the automatically detected character encoding.

This parameter is useful when the character encoding information stored in the RDATA file is missing or incorrect.

## **S57 Reader Parameters**

### **Action to Take on Update Files**

#### Apply

Choosing this option will cause the S-57 reader to apply all updates available for the datasets read. That is, if there are files ending in .011, .002, and so on, in the same directory with base datasets (ending in .000), these update files will be read and applied to the base feature set in accordance with S-57 update rules.

#### Ignore

Choosing this option will cause the S-57 reader to ignore all updates.

### **Features**

#### Read Spatial Objects as Features

Allows primitives to be read as individual features, whereby each feature has some extra information that could be used in future for writing to a S-57 dataset.

### **S57 Type**

This specifies which enhanced version of S-57 dataset to read. This is used only during schema generation (mapping file or workspace generation) and has no effect during normal reading. By choosing either **Default**, **Additional Military Layers 1.0**, **Additional Military Layers 2.0**, **Inland Waterways**, or **IENC 2.0**, the reader can then process the schema accordingly. By default, this parameter is set to Default, which means the dataset is interpreted as the original S-57.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Scalable Vector Graphics (SVG) Writer Parameters**

### **Template File**

#### Template File

A template file has several possible uses, including the insertion of predefined geometric elements, the inclusion of Cascading Style Sheets, and the embedding of scripting information.

Enter the path name for the SVG file whose contents will be embedded in the output dataset.

### **Coordinate Options**

#### Precision

Specifies the number of decimal digits to use when writing an SVG element coordinate's value. The default is 6. Specifying a larger value increases coordinate precision and may increase rendering precision. This is an optional parameter

#### Normalize

Normalizes the lower coordinate bounds of the writer's feature set to (0,0). Normalization can reduce rendering inaccuracies by SVG viewers with small coordinate precision capability. A normalized document's file size is typically smaller than a non-normalized version.

## ***Schema (Any Format) Reader Parameters***

### **Input Format**

This specifies the FME short name of the format that will be used at runtime to read the data from. Format short names are documented as part of each reader's documentation.

If no valid name is specified, then the reader will try to guess the name from the filename extension of the source dataset (if the dataset is a file).

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## **Schema (From Table) Reader Parameters**

### **Reader**

#### Format

The format of the database table to be read.

#### Dataset

The file from which the data is to be read.

#### Coord. System

This field will usually display "Unknown", which means that FME will simply use default values. In most cases, the default value is all you will need.

#### Parameters

Edit parameters specific to the format you have chosen. For detailed help with all format parameters, click Help in the applicable Parameter box.

### **Select Table**

Select the table you want to read from the drop-down list.

### **Select Columns**

#### Feature type

Specifies the column name that contains the feature type name to use when creating schema information feature. The output attribute that will be set is `fme_feature_type_name`.

#### Attribute name

Specifies the column name that contains the attribute names to use when creating schema information feature. Output attributes that will be affected will be of the form `attribute{n}.name`.

#### Attribute data type

Specifies the column name that contains the attribute's type to use when creating schema information feature. Output attributes that will be affected will be of the form `attribute{n}.fme_data_type`.

#### Geometry type

Specifies the column name that contains the geometry type to use when creating schema information feature. Output attributes that will be affected will be of the form `fme_geometry{n}`.

#### Attribute sequence

Specifies the column name that contains information about how to order the schema attributes.

#### Multivalue separator

Choose the character that will separate multiple values.

## ***SEG-P1 Reader Parameters***

Lat/Long in DDMMSSSS (Y/N)?

This is either set to yes or no to indicate whether the coordinates are stored as decimal degrees or grads, respectively.

## **SEG-Y Reader Parameters**

### **Coordinate Format**

Specifies the binary encoding that the reader will use to interpret the coordinate values in the binary trace header.

#### 4-byte Integer

Specifies that the stored value is encoded as a signed integer.

#### 4-byte IEEE Floating-point Value

Specifies that the stored value is encoded as an IEEE floating point number.

### **Coordinate Location**

Specifies the byte offset of the coordinate values in the binary trace file. The coordinate values are stored as two 4-byte values.

#### Standard/SeisX SEG-Y Format

If this box is checked, the X coordinate will be read from locations 81 to 84 and the Y coordinate will be read from locations 85-88.

#### Custom

You can also specify a Custom value for the coordinate location.

For example, if the byte offset of 81 is specified, the X coordinate will be read from locations 81 to 84 and the Y coordinate will be read from locations 85 to 88.

## **SEG-Y Writer Parameters**

### **Coordinate Format**

Specifies the binary encoding that the reader will use to interpret the coordinate values in the binary trace header.

#### 4-byte Integer

Specifies that the stored value is encoded as a signed integer.

#### 4-byte IEEE Floating-point Value

Specifies that the stored value is encoded as an IEEE floating point number.

### **Coordinate Location**

Specifies the byte offset of the coordinate values in the binary trace file. The coordinate values are stored as two 4-byte values.

#### Standard/SeisX SEG-Y Format

If this box is checked, the X coordinate will be written to locations 81 to 84 and the Y coordinate will be written to locations 85-88.

#### Custom

You can also specify a Custom value for the coordinate location.

For example, if the byte offset of 81 is specified, the X coordinate will be written to locations 81 to 84 and the Y coordinate will be written to locations 85 to 88.

## Setting Feature Type Fanout Properties

The fanout settings in the Feature Type Properties dialog allow you to use that specific feature type as a template for dynamically created feature types. Or, if you wish to dynamically create datasets instead of feature types, you can set dataset fanout properties from the Navigation pane.

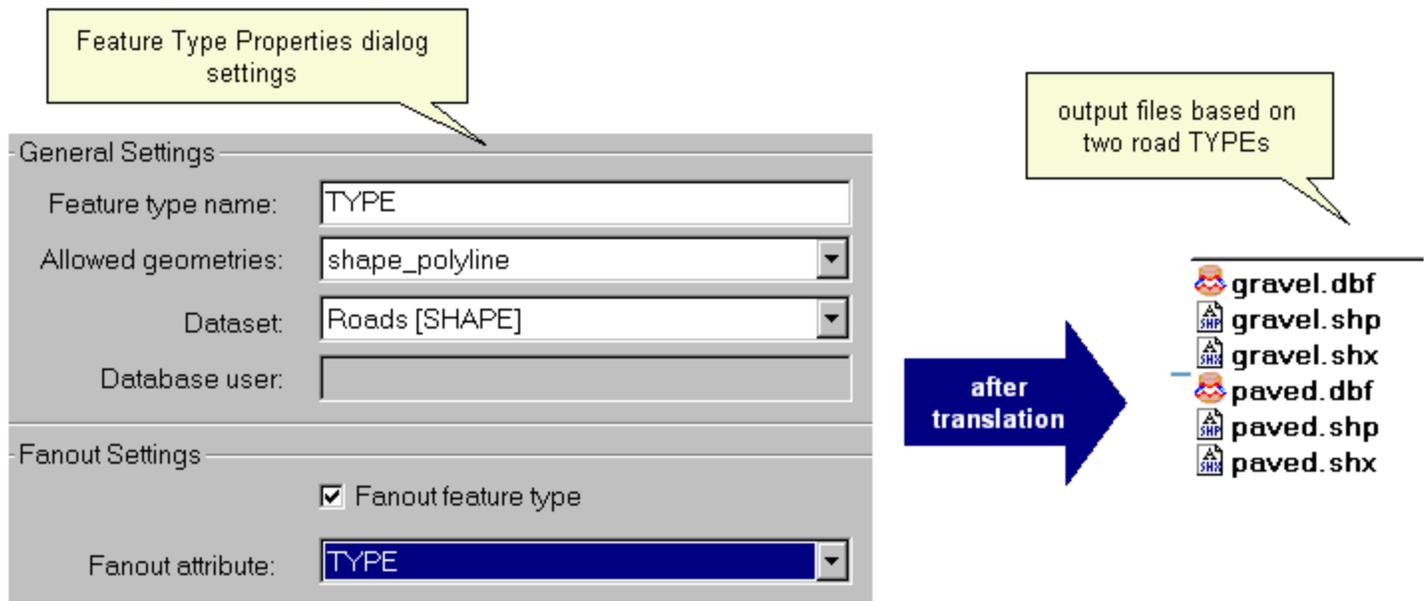
Feature type fanout means that many feature types will be created from one template feature type. How this actually appears as output depends entirely on the format. For example:

- AutoCAD is a file-based format, so each feature type created will be a different layer in the AutoCAD file.
- Shape is a directory-based format, so each feature type created is a new Shapefile.
- Oracle is a database format, so each new feature type is created as a new table in the database.

### To initiate a feature type fanout:

1. Click Feature Type Properties  on an destination feature type.
2. Check Fanout feature type .
3. Choose the Fanout Attribute from the drop-down menu. A new feature type will be created for each unique value of the fanout attribute, and all features with that value will be written to the resulting new feature type.
4. Click **OK** to apply the properties to the feature type from which you initiated the Properties dialog. Click **Apply to All** to apply these properties to all feature types in your output dataset.

Example output:



## Combining Feature Type and Dataset Fanouts

You can combine Feature Type and Dataset Fanouts.

For example, if you are working with a directory-based format and you perform a feature type fanout on attribute A and a dataset fanout on attribute B, then you'll end up with multiple directories of files, with the filenames dependent on the values of attribute A.



## ***Shuttle Radar Topography Mission Height (SRTM HGT) Reader Parameters***

### **Dataset Parameters**

#### Group By Filename

When this box is left unchecked, the only feature type this reader will use is the reader type name, which in this case is SRTMHGT.

When this box is checked, the feature type of each dataset is the filename (without the path or the extension) of the dataset.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***SICAD Reader Parameters***

The SICAD reader and writer plug-ins are authored and distributed by GeoTask and are not included with FME.

Please contact GeoTask for information about this format.

## ***SICAD Writer Parameters***

The SICAD reader and writer plug-ins are authored and distributed by GeoTask and are not included with FME.

Please contact GeoTask for information about this format.

## **Smallworld 4 Reader Parameters**

### **Database Connection**

FME communicates with a Smallworld application through a special server controlled by the Smallworld process.

The FME server communicates through the Smallworld Transport Independent Client/Server (TICS) package. The TICS package provides an architecture-independent transport of information between Smallworld and other applications – in this case, the FME – through Transmission Control Protocol/Internet Protocol (TCP/IP) networking.

#### TICS Server Host

The values given here are transferred to the Dataset field in the Select Dataset dialog box. The FME TICS server does not authenticate the Username and Password. However, the external server may request that you supply a string in the Settings dialog box for the Username and Password fields, even though the contents of these fields is not checked.

#### TICS Server Port

The TCP port number on which the FME Server is executing on that computer

#### Service

This field has a default setting of FME. This is not normally changed.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Table List

Click the Browse button to locate the object list to import.

#### Alternative

This field is ignored. All import and export is to the current default alternatives.

## ***Smallworld 4 Writer Parameters***

### **Database Connection**

FME communicates with a Smallworld application through a special server controlled by the Smallworld process.

The FME server communicates through the Smallworld Transport Independent Client/Server (TICS) package. The TICS package provides an architecture-independent transport of information between Smallworld and other applications – in this case, the FME – through Transmission Control Protocol/Internet Protocol (TCP/IP) networking.

#### **TICS Server Host**

The values given here are transferred to the Dataset field in the Select Dataset dialog box. The FME TICS server does not authenticate the Username and Password. However, if the FME and Smallworld session are on different computers, and Smallworld Authorization is enforced for the Smallworld database, you must supply a string in the Settings dialog box for the Username and Password fields, even though the contents of these fields is not checked.

#### **TICS Server Port**

The TCP port number on which the FME Server is executing on that computer.

#### **Service**

This field has a default setting of FME. This is not normally changed.

#### **Username and Password**

Enter the username and password to access the database, user account, or wherever authentication is required.

## ***Space Delimited XYZ Reader Parameters***

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Spatial Archive and Interchange Format (SAIF) Reader Parameters***

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Spatial Data Transfer Standard (SDTS) Reader Parameters***

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***SpatialBiz Reader Parameters***

### **Connection**

#### TICS Server Host and TICS Server Port

The values given here are transferred to the Dataset field in the Select Dataset dialog box. The FME TICS server does not authenticate the Username and Password. However, if the FME and Smallworld session are on different computers, and Smallworld Authorization is enforced for the Smallworld database, you must supply a string in the Settings dialog box for the Username and Password fields, even though the contents of these fields is not checked.

### **Constraints**

#### Object List

Click the Browse button to locate the object list to import.

#### Alternative

This field is ignored. All import and export is to the current alternatives of the relevant datasets in the database of the Smallworld application.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Spatialite (FDO) Reader Parameters***

### **Dataset**

#### Database File

The file from which the data is to be read.

### **Constraints**

#### Remove Schema Qualifier

Specifies whether to keep the schema qualifier. Checking this box indicates that the reader should return the table name without any prefixes. This is useful, for example, when creating a workspace that will be passed on to another organization that is using the same table names.

When this box is checked during the generation of a workspace, the source feature types will be the table names without any prefix; otherwise, they will contain the owner name as a prefix. It is recommended that you do not change this setting after generating the workspace, since it is possible for no features to be successfully passed onto the writer (since the writer is expecting feature types with different names).

Note: Even when this option is checked, if the table is owned by a user other than the current user, the <owner\_name> prefix will not be dropped so that the reader will find the correct table; however, the <data-base\_name> prefix will still be dropped.

#### Table List

After you have completely specified the database connection, click the Browse button to select tables to import. A connection window appears while FME reads a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***SQLite Non-Spatial Reader Parameters***

### **Database Connection**

#### Database

Enter the file name of the SQLite3 database.

### **Constraints**

#### Table List

Click the Browse button and choose from the list of feature types.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## **SQLite Spatial (FDO) Reader Parameters**

### **Dataset**

#### Database File

Enter the file name of the SQLite Spatial database.

### **Constraints**

#### Remove Schema Qualifier

Checking this box indicates that the feature type name in FME should not contain the schema name prefix before the table name.

Not checking the box indicates the table name will contain the schema prefix separated by a period.

#### Table List

Click the Browse button and choose from the list of feature types.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***SQLite Spatial (FDO) Writer Parameters***

### **Schema**

#### Default Schema Name

The name of the table to be written. If a table with the specified name exists, it will be overwritten if the Overwrite File parameter is checked. Otherwise, the table will be appended.

### **Write Parameters**

#### Overwrite File

Specifies whether the output file should be overwritten, if it exists. If this box is not checked, the SQLite3 writer will append the new features to the dataset.

## ***Standard Linear Format (SLF) Reader Parameters***

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **STAR-APIC Mercator MCF Reader Parameters**

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Statistical Analysis System (SAS) Reader Parameters***

### Character Encoding

This optional parameter controls which character encoding is used to interpret text attributes from the file. If the value is not set, then the character encoding will be automatically detected from the source file. If the value is set, it will take precedence over the automatically detected character encoding.

This parameter is useful when the character encoding information stored in the file is missing or incorrect.

## ***Statistical Analysis System (SAS) Writer Parameters***

### Character Encoding

This optional parameter controls which character encoding is used to interpret text attributes from the file. If the value is not set, then the character encoding will be automatically detected from the source file. If the value is set, it will take precedence over the automatically detected character encoding.

This parameter is useful when the character encoding information stored in the file is missing or incorrect.

### SAS Platform

Choose the platform to which to write the dataset. The default is the current platform.

### SAS Output File Version

Choose the version for the output dataset.

## **Swedish I2K (Interface 2000) Reader Parameters**

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Swedish KF85 Reader Parameters***

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## **Swedish MASIK Reader Parameters**

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## Swiss INTERLIS (ili2fme) Reader Parameters

### Parameters

#### Models

The required INTERLIS models to read the dataset (without extension .ili and separated by semicolons (;). The default value XTF means that models are determined by inspecting the transfer file.

#### Models Directory

This is the folder that contains the .ili files. These files are scanned for INTERLIS models. You may use %XTF\_DIR as placeholder for the directory of the data file that you will read. Multiple directories may be separated by semicolons (;).

#### Check TID/OID Uniqueness

If set to Yes, the reader will check if the TIDs/OIDs are unique. Otherwise, it will bypass this check.

#### Geometry Encoding

Defines the encoding of geometry attributes, which are not used as FME geometry (only the first geometry attribute becomes an FME geometry).

- FMEXML encodes as FME XML
- FMEBIN encodes as FME Binary
- FMEHEXBIN encodes as FME Hex Binary
- OGCHXBIN encodes as OGC Hex Binary

#### Create Linetables

If set to Yes, ili2fme will create two additional feature types for each INTERLIS SURFACE or AREA attribute: one with the ending "\_MT" containing the main table data as it appears in the transfer-file, and one with the ending "\_LT" containing the line helper table as it appears in the transfer-file.

If set to No, ili2fme will not create additional tables.

Note: This field applies only to INTERLIS 1 datasets with INTERLIS AREA or INTERLIS SURFACE attributes.

#### Skip Polygon Building

If set to Yes, ili2fme will not build polygons from the line tables as they appear in the transfer-file. If set to No, ili2fme will build polygons from the line tables and the (geo)-references as they appear in the transfer-file.

Note: This field applies only to INTERLIS 1 datasets with INTERLIS AREA or INTERLIS SURFACE attributes.

#### Inheritance Mapping Strategy

If set to "SuperClass", the superclass inheritance mapping strategy is applied.

If set to "SubClass", the subclass inheritance mapping strategy is applied.

Applies only to INTERLIS 2 datasets.

For more information see the section titled Inheritance mapping strategies under 'Feature Representation' in the Swiss INTERLIS (ili2fme) Reader/Writer section of the Readers and Writers Manual.

#### ITF Add Default Values

If set to Yes, the reader will parse the explanation at the end of attribute definitions that are optional. If there is no attribute value in the data, it will add the one given in the model.

If set to No, the reader will not supply any default values to the data.

Note: This field applies only to INTERLIS 1 datasets.

### ITF Renumber TIDs

If set to Yes, the reader will renumber the objects so that the TID becomes unique across the whole transfer.

If set to No, it will read the TIDs without making any changes.

Note: This field applies only to INTERLIS 1 datasets.

### Convert ILI AREA to FME Donut

The name of a FME pipeline definition file (.fmi) to be used to build the FME polygons from the line helper table features of INTERLIS AREA attributes and main table features as read from the ITF file.

If the filename is not set, the reader will use a built-in pipeline.

Note: This field applies only to INTERLIS 1 datasets and if Skip Polygon Building is set to No.

### Convert ILI SURFACE to FME Donut

The name of a FME pipeline definition file (.fmi) to be used to build the FME polygons from the line helper features of INTERLIS SURFACE attributes and from the main table features as read from the ITF file.

If the value is not set, the reader will use a built-in pipeline.

Note: This field applies only to INTERLIS 1 datasets and if Skip Polygon Building is set to No.

### ITF Read enum Values as Code

If set to Yes, the reader will read values of attributes of type enumeration as numeric code (the same code as it appears in the transfer file). This option is not recommended and exists only for backward compatibility reasons.

If set to No, the reader will map the code from the transfer file to enumeration element name (the value as it would appear in an INTERLIS 2 transfer file). This option is recommended because it is less error prone and offers compatibility between INTERLIS 1 and 2.

Note: This field applies only to INTERLIS 1 datasets.

### Create Feature Types For Enumerations

Controls how FME feature types are created for INTERLIS enumerations

- If set to "No", no feature types are created for enumerations
- If set to "SingleType", a single additional feature type called "XTF\_ENUMS" is created and each element of all enumeration types is provided as a feature of this feature type.
- If set to "OneTypePerEnumDef", one feature type is created for each enumeration type.

### Enable Trace Messages

Controls the level of detail of log messages written by the reader.

If set to Yes, details progress messages will be written to the log. If set to No, only normal progress messages will be written to the log.

## **Swiss INTERLIS (ili2fme) Writer Parameters**

### **Writer Parameters**

#### Models

The required INTERLIS models to read the dataset (without extension .ili and separated by semicolons (;). The default value XTF means that models are determined by inspecting the transfer file.

#### Models Directory

This is the folder that contains the .ili files. These files are scanned for INTERLIS models. You may use %XTF\_DIR as placeholder for the directory of the data file that you will read. Multiple directories may be separated by semicolons (;).

#### Check TID/OID Uniqueness

If set to Yes, checks if the TIDs/OIDs are unique. If set to No, this check is bypassed.

#### Inheritance Mapping Strategy

If set to "SuperClass", the superclass inheritance mapping strategy is applied. If set to "SubClass", the subclass inheritance mapping strategy is applied.

Applies only to INTERLIS 2 datasets.

For more information see the section titled Inheritance mapping strategies under 'Feature Representation' in the Swiss INTERLIS (ili2fme) Reader/Writer section of the Readers and Writers Manual.

#### Geometry Encoding

Defines the encoding of geometry attributes which are not used as FME geometry (Only the first geometry attribute becomes FME geometry).

- FMEXML encodes as FME XML
- FMEBIN encodes as FME Binary
- FMEHEXBIN encodes as FME Hex Binary
- OGCHXBIN encodes as OGC Hex Binary

#### Use Linetables

If set to Yes, the writer will expect one additional feature type for each INTERLIS SURFACE or AREA attribute. The additional feature type with the ending "\_\$(attributeName)" contains the line helper features as they should appear in the transfer-file.

If set to No, the writer will create the line helper table out of the polygons/donuts.

Note: This field applies only to INTERLIS 1 datasets with INTERLIS AREA or INTERLIS SURFACE attributes.

#### Enable Trace Messages

Controls the level of detail of log messages written out.

If set to Yes, detailed progress messages will be written to the log. If set to No, only normal progress messages will be written to the log.

## **Swiss INTERLIS (Tydac) Reader Parameters**

### Complex Feature Handling

Choose how you want to handle complex features.

### Arc Handling

Check **Stroke Into Lines** if you want to have any arc features turned into lines during translation. If you choose to do this, then you must also enter the maximum allowable deviation from the created line to the original arc, measured in ground units.

### MultiGeometry Handling

Check **Keep in one table** to include multiple geometries in a single table. The reader creates aggregate features and the writer can store all geometries in the table.

If the box is left unchecked, additional tables will be created to handle multiple geometries.

### **Format Notes**

This format is not available with FME Base Edition.

## **Tagged Image File Format (TIFF) Reader Parameters**

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you do not select this option, the only feature type this reader will use is the reader type name, which in this case is TIFF.

#### Group By Subdataset Name

If you select this option, the name of each dataset is the subdataset name. If you do not select this option, the name of each dataset is the reader type name.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Tele Atlas MultiNet Interchange Format Reader Parameters***

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## **Teradata Spatial Reader Parameters**

### **Database Connection**

#### Database

Specifies the name of the Teradata Database. The database name must exist in the DBMS.

#### Host

This specifies the hostname or IP address of the machine hosting the DBMS.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **Constraints**

#### Homogeneous Geometry

Select this option only when generating a mapping file, generating a workspace, or when retrieving schemas in an FME Objects application.

#### Table List

After you have completely specified the database connection, click the Browse button to select tables to import. A connection window appears while FME reads a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

#### WHERE Clause

This optional specification is used to specify a where clause to use for the query. If this parameter is left blank, all rows in the table will be read and returned as individual features. If a WHERE clause is specified, only those rows that are selected by the clause will be read. (Note that the WHERE clause does not include the word *WHERE*.)

Example:

The example below selects only the rows for which the name column value is equal to safe:

```
name='safe'
```

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input

features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Teradata Spatial Writer Parameters***

### **Database Connection**

#### Database

Specifies the name of the Teradata Database. The database name must exist in the DBMS.

#### Host

This specifies the hostname or IP address of the machine hosting the DBMS.

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

### **ODBC Connection**

#### DSN

The ODBC Data Source Name to use for the DDL statements, i.e., create and drop tables. The DSN must exist and contain the appropriate login credentials.

## ***Text Feature Store (TFS) Fixed Schema Reader Parameters***

### **File Contents**

#### Character Encoding

By default, the TFS writer produces UTF-8 encoded documents. If this parameter is set to another encoding, the writer will transcode the data to the specified encoding.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Text Feature Store (TFS) Variable Schema Reader Parameters***

### **File Contents**

#### Character Encoding

By default, the TFS writer produces UTF-8 encoded documents. If this parameter is set to another encoding, the writer will transcode the data to the specified encoding.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Text Feature Store (TFS) Variable Schema Writer Parameters***

### **Credentials**

#### Username and Password

Enter the username and password to access the database, user account, or wherever authentication is required.

## ***Text File Reader Parameters***

### **Reader Parameters**

#### Read Whole File at Once

Specifies whether the entire input file should be read at once.

#### Read bottom up

Specifies whether the input file should be read backwards, from the end of the file to the top. This is useful when only a few features from the end of a large file are required to be read.

### **Reader File Content**

#### Character Encoding

By default, the CityGML writer produces UTF-8 encoded documents. If this parameter is set to another encoding, the writer will transcode the data to the specified encoding.

## **Text File Writer Parameters**

### **File Contents**

#### Overwrite Existing File

Specifies whether the output file should be overwritten or appended to. The default is for the destination file to be overwritten.

#### Character Encoding

Controls which character encoding is used when writing the output file. If the value is not set, then the character encoding will be automatically detected from the system on which translation is being performed.

#### Line Termination

Specifies the format (Windows, UNIX, or Macintosh) of line terminators to be used in the output file.

#### MIME Type (FME Server Only)

This option is only of interest for users who are authoring for FME Server's streaming service, and would like to be able to create HTML files on the fly for streaming into the browser (as opposed to streaming plain text back to the browser).

Choosing text/plain or text/html communicates to and stores in the workspace information on how the text file will be streamed back if it is used in the streaming service.

#### Write UTF-8 Byte Order Mark

This option specifies whether the byte order mark for UTF-8 encoded file should be written at the beginning. This option applies only when the encoding is set to UTF-8.

## ***TIGER/Line Reader Parameters***

### **Left Justified Numeric Fields**

#### Read as Character String

Determines whether or not to treat left-justified numeric fields as strings, which will preserve the leading zeros.

#### Read as Integers (strip leading zeros)

Attribute values like "09" will be read as "9".

## ***Trimble JobXML Reader Parameters***

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## ***U.S. Census Bureau TIGERGML Reader Parameters***

### **GML Parameters**

#### Continue on Geometry Error

Rather than halting the reader, this setting allows the reader to continue reading and extracting features from the input GML document stream upon encountering a geometric error. Its default setting is Yes.

#### Read Predefined GML Properties

This setting specifies whether the default and optional GML feature properties, name and description, should be read. Its default setting is Yes.

### **File Contents**

#### System Encoding

Specifies the encoding (for example, UTF-8) to use for the GML schema and data features that are read by the reader. If not set, then features will be output in the system's encoding.

### **Schema**

#### TigerGML Schema Document

Browse to include the TigerGML\_Schema\_File (\*.xsd).

## ***U.S. Environmental Protection Agency (EPA) Geospatial Data Reader Parameters***

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***U.S. Geological Survey Digital Elevation Model (USGS DEM) Reader Parameters***

### **Feature Decimation**

#### Decimation Factor

DEM files can be very large, and you may not always need all the data at the full resolution of the input DEM (if you are testing, for example). For this reason, you can enter a decimation factor that specifies how much of the file is skipped. If you enter a factor of 1, you will get the entire file. If you enter a factor of 2, you will get every second point horizontally, and every second point vertically (thus significantly reducing the file size).

### **Dataset Parameters**

#### Read as DEM Raster

DEM files can be interpreted by FME as a group of associated point features or as a single grid feature. These settings determine which way FME will handle the raster data. Raster files can be translated much more efficiently as grid features than as many point features.

If Read as DEM Grid is checked, each raster file is handled as a single grid feature.

If Read as DEM Grid is not checked, the elevation values in a raster file are handled as individual point features.

#### Group By Filename

When this box is not checked, the only feature type this reader will use is the reader type name, which in this case is USGS\_DEM.

When this box is checked, the feature type of each dataset is the filename (without the path or the extension) of the dataset.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## Vector Product Format (VPF) Coverage Reader Parameters

### Dataset Parameters

#### Dataset

In database mode (VPF\_DB), the value for this directive is the path to the DHT file. The directory where this file exists is the root directory of the VPF database. This directory directly and indirectly contains all the libraries, coverages, feature classes and related metadata for the database. A typical mapping file fragment that selects a VMap database from drive e: would be:

```
VPF_DATASET e:/vmaplv0/dht
```

In coverage mode (VPF), the value for this directive defines the coverage directory that the reader will read from. A typical mapping file fragment that selects a VMap database from drive "e:" would be:

```
VPF_DATASET e:/vmaplv0/noamer/hydro
```

### Feature Class Parameters]

#### Feature Class List

This optional specification is used to limit the available feature classes that are read. If no IDs are specified, then all available feature classes are read. The syntax of the IDs directive in a database mode reader (VPF\_DB) is:

```
<ReaderKeyword>_IDs <libName>\<coverageName>\<featClass> \      ...\....\...      \      <lib-  
NameM>\<coverageNameN>\<featClassO>
```

The syntax for a DEF line used in a coverage mode reader (VPF) is:

```
<ReaderKeyword>_IDs <featClass1> \      ... \      <featClassN>
```

Note: If both DEF lines and IDs are used to specify feature class, then the intersect of these sets determines the actual feature classes to read.

#### Feature Class Separator

The value for this parameter is the character that is used in a feature's feature type to separate the library and coverage names from the metadata table and feature class names. If this attribute is not specified, then the backslash (\) separator is used.

### Tile Parameters

#### Tile IDs

Limits the geometric features that are produced. Only feature class features that exist in the specified tiles will be output. If no value is specified, then all the tiles in the library will be used. Input can be in the format <tileId0>, <tileId1> or you can specify a range of IDs in the format <tileId0>-<tileIdN>.

For more information on how to specify "Tile IDs" please refer to the VPF Chapter in the FME Readers/Writers manual.

#### Tile Extents

Tile extents will take a string formed by a comma-separated list of coordinates. The minimum x is followed by the minimum y and then the maximum x is followed by the maximum y value.

For example:

## **minx,miny,maxy,maxy**

In this example, (minx,miny) represent the lower left corner of the bounding box and (maxx,maxy) represent the top right corner of the bounding box.

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.

## Vector Product Format Database (VPF\_DB) Reader Parameters

Schema templates are shipped separately in a zip file. Please ensure that the schema templates are already installed in the [FME\_HOME] directory. To install, just unzip the file ( named `vpf<build#>.zip`) in the [FME\_HOME] directory.

### Dataset

#### Dataset

The value for this field is the path to the DHT file. The directory where this file exists is the root directory of the VPF database. This directory directly and indirectly contains all the libraries, coverages, feature classes, and related metadata for the database.

### Feature Type Settings

#### Schema ID List

Browse to select the schema ID list. This is the list of feature types in the VPF\_DB dataset that are table names. These table names appear as a directory structure from the root of the VPF\_DB dataset. A feature type in VPF\_DB looks like "eurasia\bnd\barrier!"(<library name>\<coverage name>\<table name>).

#### Feature Type Separator

The character that is used in a feature type to separate the library and coverage names from the metadata table and feature class names. By default, the '\' separator is used.

### Tile Settings

#### Tile IDs

Limits the geometric features that are produced. Only feature class features that exist in the specified tiles will be output. If no value is specified, then all the tiles in the library will be used. Input can be in the format <tileId0>, <tileId1> or you can specify a range of IDs in the format <tileId0>-<tileIdN>.

For more information on how to specify "Tile IDs" please refer to the VPF Chapter in the FME Readers/Writers manual.

#### Tile Extents

Tile extents will take a string formed by a comma-separated list of coordinates. The minimum x is followed by the minimum y and then the maximum x is followed by the maximum y value.

For example:

**minx,miny,maxx,maxy**

In this example, (minx,miny) represent the lower left corner of the bounding box and (maxx,maxy) represent the top right corner of the bounding box.

## Vector Product Format Database (VPF\_DB) Writer Parameters

IMPORTANT! Before you can use the VPF writer, please ensure that the schema templates are already installed in the `[FME_HOME]` directory. Schema templates are shipped separately in a zipped file. To install, just unzip the file (named `vpf<build#>.zip`) in the `[FME_HOME]` directory.

### Product

#### VPF Product Name

The value for this parameter is the type of VPF product database to produce. The writer provides 6 possible choices: VMAP0, VMAP1, VMAP2, DNC, UVMAP and FFD.

### Adding your own product type

It is also possible to add your own product type.

#### More Information

1. Copy the schema template for your product into `FME_HOME/vpf`. See one of the other schema templates in `FME_HOME/vpf` for an idea of what is expected.
2. Open the file `FME_HOME/metafile/vpf_db.fmf` and add your product type on the line:

```
GUI CHOICE PRODUCT DNC%FFD%VMAP0%VMAP1%VMAP2%UVMAP VPF Product Name
```

by adding `%<product_type>` after UVMAP. An example of this is:

```
GUI CHOICE PRODUCT DNC%FFD%VMAP0%VMAP1%VMAP2%UVMAP%NEW_PRODUCT : VPF Product Name:
```

The name of the product type in the metafile must be the same as the folder containing the schema template within `FME_HOME/vpf`, although the case of the letters can be different.

## **Vertical Mapper Grid (NGrid) Reader Parameters**

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you do not select this option, the only feature type this reader will use is the reader type name, which in this case is NGRID.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***Virtual Reality Modeling Language (VRML) Writer Parameters***

### **Attribute Display**

#### Attribute Display

Controls how attributes will be displayed in the output VRML scene:

- **None:** No attributes will be displayed, usually resulting in a much smaller output file.
- **Tip:** attributes will “pop up” when the cursor moves over a feature in the VRML file.
- **Click:** Attributes will “pop up” only when you click on the feature.

#### Text Size

When you choose Tip or Click for the Attribute Display parameter, you can set the size of the attribute text (in ground units) that will pop up.

### **Z Scaling**

#### Z Exaggeration

This multiplier will be applied to all Z values to exaggerate the elevation component of the scene, sometimes to enhance the three-dimensional effect.

Setting it to 1 effectively disables the exaggeration. You can also specify fractional exaggerations, plus exaggerations within 0 and 1 to reduce the Z values.

## ***VoxelGeo OpenInventor (VOIV) Writer Parameters***

### **Writer Parameters**

#### **Point Radius**

When points are written to VOIV files, they are written with a radius defined by the hidden attribute `fme_size`, or the parameter `Point Radius` if `fme_size` cannot be found. If `Point Radius` is not defined, the default value is 1.

## **Wavefront OBJ Reader Parameters**

### **Optimization**

#### Merge Mesh Parts

If the value is Yes, the group name, object name, and smoothing group information will be lost for each face in the source file, and the corresponding FME feature will contain only one mesh that contains all of the faces from the source file. This results in a more efficient representation of the data if the user does not wish to keep the additional face information.

The OBJ writer will maintain this information so it is recommended to leave this option set to "No" for OBJ to OBJ translations. If the value is set to 'No', in the case that multiple group names, object names or smoothing groups are used, this information will be preserved as traits on multiple meshes containing faces that have been grouped by these values.

### **Coordinate System**

#### Move To World Coordinate System

If the value of this parameter is 'Yes', the companion '.prj' and '.wld' files (having the same name as the '.obj' file) will be read to acquire the coordinate system and the data necessary to convert points to the world coordinate system.

Note: In the absence of a companion '.wld' file with the same name as the '.obj' file, a file named 'global.wld' will be looked for in the same directory. Similarly for the companion '.prj' file, only in that case we will only look for a file named 'global.prj'.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## Wavefront OBJ Writer Parameters

### Coordinate System

#### Move To Local Coordinate System

If set to 'PRJ\_ONLY', a companion '.prj' file containing the coordinate system and having the same name as the '.obj' file will be written in the same directory as the '.obj' file.

If set to 'Yes', in addition to writing the '.prj' file as in the 'PRJ\_ONLY' option, a companion '.wld' file with the same name as the '.obj' file will be written in the same directory as the '.obj' file and the coordinates of all the points in the written features will be normalized to the interval [-0.5, 0.5] on the largest side of their XY-bounding box. The other dimensions will be scaled proportionally. This can be used to improve precision of the written coordinates.

### Feature Handling

#### Reverse Face Order

This option forces faces and lines to be written in a reverse order. This option is useful when faces are all back faced when rendering only the front side and you need to reverse all faces.

#### Triangulate Faces

This option forces faces to be broken into triangles. This option is useful when faces are required to be triangles or convex for a particular OBJ viewing application.

Note: Some obj viewer applications do not correctly handle concave faces.

#### Write Points and Lines

Controls whether the writer includes points and lines when writing to the output file. When this is set to 'No', point and line features will be silently dropped. Some applications do not render points and lines and others do not accept the file if it contains them (eg. Autodesk 3ds Max).

### Use Existing Material File

#### Use Existing Material File

Check this box to enable material library file handling.

#### Material Library File

When Handle Material File is checked, this option specifies a full path to a mtl file to use as the Material Library (mtllib) when creating an obj file during writing. Leave this blank if you do not have an existing material library or do not use materials in your obj model.

#### Material Library Linkage

When Handle Material File is checked, this option specifies how the material library (.mtl) file is referenced during writing:

**Relative** - references the mtl file relative to the obj file. In this case, the mtl file will need to be placed in a directory that is relative to the obj file being created. The mtllib directive in the obj file will reference the mtl file using a relative path.

**Copy** - makes a copy of the mtl file and places it in the same directory with the obj file. The mtllib directive in the obj file will reference this copy with no directory in the mtl path reference.

Note: This option will copy the .mtl file. However, if there are additional files referenced from the .mtl file such as texture files, they will not be copied and will need to be manually copied.

**Absolute** - references the mtl file using a absolute location. The mtllib directive in the obj file will reference the template file using an absolute path.

Note: The Absolute reference will use the mtl file name as specified in the Material Library File field above, which should itself specify an absolute path to the .mtl file.

## **Web Feature Service (WFS) Reader Parameters**

Note: The source dataset must be set to the WFS server name.

### **WFS Connection**

#### URL

Enter a proxy server that the reader will use when accessing a URL dataset (for example, [http://www.mywfs.com/wfs\\_service\\_path/](http://www.mywfs.com/wfs_service_path/)). If you have specified a WFS server name in the source dataset field, it will appear in this field.

#### Prefer HTTP Post, if Available

Select this option if you prefer to use the HTTP Post method to update the databases.

### **Use HTTP Authentication**

#### Use HTTP Authentication

Determines whether or not to use a password-protected HTTP server.

#### HTTP User

Enter a user name when accessing a password-protected HTTP server.

#### HTTP Password

Enter the password to use when accessing a password-protected HTTP server.

#### HTTP Authentication

Specify the authentication method (Basic, Digest, or NTLM) to use when accessing a password-protected HTTP server.

Note: HTTP basic access authentication is a mechanism designed to allow a client to provide credentials to a server on the assumption that the connection between them is trusted and secure. That is, any credentials passed from client to server can be easily intercepted through an insecure connection.

### **Proxy Server**

#### Use Proxy Server

Determines whether or not to use an HTTP proxy for network fetches.

#### Proxy Address

Specify an address in the format [www.someproxy.net](http://www.someproxy.net)

#### Proxy Port

Specify a port number.

#### Proxy User

Enter the username to use when accessing a password-protected proxy server.

#### Proxy Password

Enter the password to use when accessing a password-protected proxy server.

## Proxy Authentication

Specify the authentication method (Basic, Digest, or NTLM) to use when accessing a password-protected proxy server.

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## Constraints

### Table List

Click the Browse button to select tables for export. A connection window appears while the system compiles a table from the database.

Once the table list appears, you can select one or more tables, and then click OK to dismiss the window. The table name(s) will appear in the table list field in the Reader Parameters box.

### Max Features

Enter the maximum number of features that a WFS GetFeature request retrieves.

### XML Filter Expression

Select an expression if you want the reader to send a custom OGC XML fragment filter for the GetFeature operation.

## Application Schema

### Application Schema

A GML instance document specifies the namespace and the location of its application schema through its root element xsi:schemaLocation attribute. This field allows the GML reader to use a different GML schema document from the one specified in the xsi:schemaLocation attribute.

The XML Schema specification states that the xsi:schemaLocation attribute value consists of a set of pairs: The first member of each pair is the namespace for which the second member is the hint describing where to find an

appropriate schema document. The presence of this hint does not require the processor to obtain or use the cited schema document, however, the processor is free to use other schemas obtained by other suitable means.

Note: This only takes effect if the target namespace of the dataset is not in the Safe fixed schema namespace <http://www.safe.com/xml/schemas/FMEFeatures>. See the GML chapter of the FME Readers and Writer manual for more information.

### Numeric Identifier Attribute

This parameter may be required when the WFS reader is used in a third-party application that requires each feature in a layer be identified by a numeric identifier.

Use this parameter to specify the attribute name for this numeric identifier.

## SRS Parameters

### SRS Parameters

#### SRS Axis Order

Overrides the axis order when reading a coordinate tuple in a GML element. The valid values are "1,2", "2,1", "1,2,3" and "2,1,3". There is no default value.

For example, if the srsName in the document is set to "urn:ogc:def:crs:EPSG:6.6.4326", and the user is sure that the coordinate order in the document is lon-lat and not lat-lon order, set this parameter to "1,2" so that the reader reads the data in lon-lat order.

## GML Feature Properties

### Read Predefined Properties

Specifies whether the default and optional WFS feature properties, name and description, should be read.

### Complex Properties as Nested Lists

Specifies whether GML properties that are defined as a complex type with complex content (that is, those that have embedded children elements) should be mapped as nested list attributes within FME features.

Some complex properties, such as those that are recursively defined, cannot be mapped as nested lists. These complex properties will always be mapped as XML fragments, regardless of the value of this parameter.

### Map XML fragments as XML documents

Specifies whether GML properties that are mapped as XML fragments should be converted into XML documents.

The conversion will add missing namespace declarations to the fragments, it will maintain CDATA sections, and it will also prefix an XML header declaration to the fragment. Converting the XML fragments into XML documents allows XML-based parsers, e.g., XSLT and XQuery based processors, to further process the fragments.

### Map Geometry Columns

This parameter specifies whether the GML geometric properties should be represented as individual, and possibly multiple, geometry columns in FME feature type definitions.

A geometric column in an FME data feature is represented either as a single named geometry, or, if multiple geometry columns are present, as an aggregate geometry with multiple named geometry components. This aggregate geometry will also have its "Contains Individual Geometries" interpretation flag set.

A new attribute type has also been introduced for specifying the order and/or position of a geometric column in the feature type definition. If an attribute X has its type set to "xml\_geometry" then this attribute X becomes a placeholder in the feature type definition. It is a placeholder because actual data features for the feature type definitions will not have this attribute; instead, the data features will have a geometry named "X".

***Format Notes***

This format is not available with FME Base Edition.

## **Web Map Service (WMS) Reader Parameters**

### **WMS Connection**

#### URL

The URL for the WMS server. A typical URL specifying a WMS server looks like

`http://www.fmeserver.com/wms`

### **HTTP Authentication**

#### Use HTTP Authentication

Determines whether or not to use a password-protected HTTP server.

#### HTTP User

Enter a user name when accessing a password-protected HTTP server.

#### HTTP Password

Enter the password to use when accessing a password-protected HTTP server.

#### HTTP Authentication

Specify the authentication method (Basic, Digest, or NTLM) to use when accessing a password-protected HTTP server.

Note: HTTP basic access authentication is a mechanism designed to allow a client to provide credentials to a server on the assumption that the connection between them is trusted and secure. That is, any credentials passed from client to server can be easily intercepted through an insecure connection.

### **Proxy Server**

#### Use Proxy Server

Specifies whether or not to use an HTTP proxy for network fetches.

#### Proxy Address

Specify an address in the format `www.someproxy.net`

#### Proxy Port

Specify a port number.

#### Proxy Username

The user name when accessing a password-protected proxy server.

#### Proxy Password

The password when accessing a password-protected proxy server.

#### Proxy Authentication

Specifies the authentication method (Basic, Digest, or NTLM) when accessing a password-protected proxy server.

### **Constraints**

#### Layer List

After you have completely specified the connection, click the Browse button to select layers for import. A connection window appears while the system compiles a table from the database. Once the layer list appears, you can select one or more layers, and then click OK to dismiss the window. The layer name(s) will appear in the layer list field in the Reader Parameters box.

### Split Requests By Layer

When checked, instructs the WMS reader to split the selected layers into separate HTTP Get Requests, i.e., if N layers are selected, then N separate HTTP GetMap requests are performed fetching N images.

## Map Options

### Transparent Background

Sets the background transparency for a map. When this box is checked, and the image format supports transparency (e.g., PNG and GIF), the map server will send an image with transparent background.

### Map Width

Specifies the width in pixels for the image.

### Map Height

Specifies the height in pixels for the image.

### Output Format

Specifies the image output format as a MIME type. The output format must be one of the formats listed in the WMS capabilities document. The directive defaults to "image/png".

### Map SRS

Specifies the desired coordinate system. The default value is "CRS:84" for WMS 1.3.0 and "EPSG:4326" for WMS 1.1.0 and 1.1.1.

## Schema Attributes

### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

## Search Envelope

### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

**Format Notes**

This format is not available with FME Base Edition.

## **World Meteorological Organization GRIB (GRIdded Binary) Reader Parameters**

### **Dataset Parameters**

#### Group By Filename

When this box is checked, the feature type of each dataset is the filename (without the path or the extension) of the dataset. When this box is not checked, the only feature type this reader will use is the reader type name.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***X11 Pixmap (XPM) Reader Parameters***

### **Dataset Parameters**

#### Group by Filename

If you select this option, the feature type of each dataset is the filename (without the path or the extension) of the dataset. If you do not select this option, the only feature type this reader will use is the reader type name, which in this case is XPM.

### **Schema Attributes**

#### Additional Attributes to Expose

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### Use Search Envelope

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### Clip to Search Envelope

Check this box if you want to remove any portions of exported features outside the area of interest.

## ***XDK (XML format for Danish DSFL) Reader Parameters***

### **Schema Attributes**

#### **Additional Attributes to Expose**

This parameter exposes Format Attributes in Workbench when you create a workspace:

- In a dynamic scenario, it means these attributes can be passed to the output dataset at runtime.
- In a non-dynamic scenario where you have multiple feature types, it is convenient to expose additional attributes from one parameter. For example, if you have ten feature types and want to expose the same attribute in each one, it is easier to define it once than it is to set each feature type individually in the workspace.

### **Search Envelope**

#### **Use Search Envelope**

Using the minimum and maximum x and y parameters, define a bounding box that will be used to filter the input features. Only features that interact with the bounding box are returned.

If all four coordinates of the search envelope are specified as 0, the search envelope will be disabled.

#### **Clip to Search Envelope**

Check this box if you want to remove any portions of exported features outside the area of interest.