FME®

Transformer Reference Guide

Version: 2024.2

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Document Information

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Category: 3D

Transformers that create or manipulate 3D geometry and formats, including surfaces, solids, meshes, and appearances.

- 3DAffiner
- 3DArcReplacer
- 3DForcer
- 3DInterpolator
- 3DRotator
- AppearanceExtractor
- AppearanceMerger
- AppearanceRemover
- AppearanceSetter
- AppearanceStyler
- Bufferer
- CityEngineModelGenerator
- Creator
- CSGBuilder
- CSGEvaluator
- DEMDistanceCalculator
- DEMGenerator
- DimensionExtractor
- ElevationExtractor
- Extruder
- FaceReplacer
- GeometryInstantiator
- GeometryPartExtractor
- GeometryPropertyExtractor
- GeometryPropertyRemover
- GeometryPropertyRenamer
- GeometryPropertySetter
- IFCPropertySetDefinitionCreator
- IFCQuantitySetDefinitionCreator
- MeshMerger
- MeshSimplifier
- Offsetter
- PipeEvaluator
- PipeReplacer
- PlanarityFilter
- PointCloudSurfaceBuilder
- RasterDEMGenerator
- RasterHillshader
- RasterSlopeCalculator
- Scaler
- SecondOrderConformer
- SharedItemAdder
- SharedItemIDExtractor
- SharedItemIDSetter
- SharedItemRetriever
- SolidBuilder

- SolidDissolver
- SurfaceBuilder
- SurfaceDissolver
- SurfaceDraper
- SurfaceFootprintReplacer
- SurfaceModeller
- SurfaceOnSurfaceOverlayer
- SurfaceSplitter
- TINGenerator
- VertexNormalGenerator
- VertexNormalRemover
- VolumeCalculator

Category: Attributes

Transformers to manage attributes, attribute values, and lists.

- Aggregator
- AttributeCompressor
- AttributeCopier
- AttributeCreator
- AttributeDecompressor
- AttributeDereferencer
- AttributeExploder
- AttributeExposer
- AttributeFileReader
- AttributeFileWriter
- AttributeKeeper
- AttributeManager
- AttributeRemover
- AttributeRenamer
- AttributeSplitter
- BulkAttributeRemover
- BulkAttributeRenamer
- DatabaseJoiner
- Deaggregator
- ListBuilder
- ListConcatenator
- ListCopier
- ListExploder
- ListExpressionPopulator
- ListIndexer
- ListPopulator
- ListRenamer
- ListSorter
- NullAttributeMapper

Category: Calculated Values

Transformers to calculate values using attributes, geometry, coordinates, dates and times, statistics, expressions, user parameters, and more.

- Aggregator
- AngleConverter
- AngularityCalculator
- ArcPropertyExtractor
- AreaCalculator
- AttributePivoter
- AttributeRounder
- BaseConverter
- BoundsExtractor
- CenterPointExtractor
- CircularityCalculator
- Classifier
- CoordinateConcatenator
- CoordinateExtractor
- Counter
- CRCCalculator
- DateTimeCalculator
- DateTimeConverter
- DateTimeRounder
- DateTimeStamper
- DecimalDegreesCalculator
- DEMDistanceCalculator
- DensityCalculator
- DimensionExtractor
- DMSCalculator
- ElevationExtractor
- EllipsePropertyExtractor
- ExpressionEvaluator
- GeometryExtractor
- GeometryPartCounter
- GOIDGenerator
- H3HexagonalIndexer
- HoleCounter
- LeftRightSpatialCalculator
- LengthCalculator
- LengthToPointCalculator
- ListHistogrammer
- ListRangeExtractor
- MeasureExtractor
- MeasureGenerator
- ModuloCounter
- NetworkCostCalculator
- NetworkTopologyCalculator
- OrientationExtractor
- PointCloudExpressionEvaluator
- PointCloudPropertyExtractor

- PointCloudStatisticsCalculator
- PointPropertyExtractor
- RandomNumberGenerator
- RasterAspectCalculator
- RasterBandMinMaxExtractor
- RasterBandPropertyExtractor
- RasterCellValueCalculator
- RasterExpressionEvaluator
- RasterPropertyExtractor
- RasterSingularCellValueCalculator
- RasterStatisticsCalculator
- ReprojectAngleCalculator
- ReprojectLengthCalculator
- StatisticsCalculator
- StreamOrderCalculator
- StreamPriorityCalculator
- StringLengthCalculator
- SubstringExtractor
- TempPathnameCreator
- TextLocationExtractor
- TextPropertyExtractor
- TextureCoordinateSetter
- UniqueIdentifierGenerator
- VertexCounter
- VolumeCalculator

Category: Cartography and Reports

Transformers that prepare and style data for visual presentation and reporting.

- AreaAmalgamator
- ChartGenerator
- CommonLocalReprojector
- Curvefitter
- DGNStyler
- Displacer
- DWGStyler
- ExcelStyler
- FeatureColorSetter
- Generalizer
- GeometryColorSetter
- HTMLLayouter
- HTMLReportGenerator
- ImageRasterizer
- KMLPropertySetter
- KMLRegionSetter
- KMLStyler
- KMLTimeSetter
- KMLTourBuilder
- KMLViewSetter
- Labeller
- LabelPointReplacer
- MapboxStyler
- MapInfoStyler
- MapnikRasterizer
- MSWordStyler
- NumericRasterizer
- PDFPageFormatter
- PDFStyler
- PowerPointStyler
- RasterHillshader
- RevitStyler
- SherbendGeneralizer
- TextAdder
- TextPropertySetter
- TextStroker
- WebMapTiler

Category: Coordinates

Transformers that manipulate coordinates and coordinate systems, including reprojection, georeferencing, warping, and coordinate extraction.

- 2DForcer
- 3DAffiner
- 3DForcer
- Affiner
- ArcGISGridSnapper
- AttributeReprojector
- CenterPointExtractor
- CommonLocalReprojector
- CoordinateConcatenator
- CoordinateExtractor
- CoordinateRounder
- CoordinateSwapper
- CoordinateSystemDescriptionConverter
- CoordinateSystemExtractor
- CoordinateSystemRemover
- CoordinateSystemSetter
- CsmapAttributeReprojector
- CsmapReprojector
- DecimalDegreesCalculator
- DimensionExtractor
- DMSCalculator
- ElevationExtractor
- EsriReprojector
- GridInQuestIIReprojector
- GtransAttributeReprojector
- GtransReprojector
- LatLongToMGRSConverter
- LocalCoordinateSystemSetter
- MGRSToLatLongConverter
- PROJAttributeReprojector
- PROJReprojector
- RasterGCPExtractor
- RasterGCPSetter
- RasterGeoreferencer
- ReframeReprojector
- ReprojectAngleCalculator
- ReprojectLengthCalculator
- Reprojector
- RubberSheeter
- Scaler
- SecondOrderConformer
- TextureCoordinateSetter
- VertexCounter
- VertexNormalGenerator
- VertexNormalRemover
- VertexRemover

Category: Data Quality

Transformers useful for analyzing data quality, validating attributes and geometry.

- AngularityCalculator
- AreaGapAndOverlapCleaner
- AttributeValidator
- ChangeDetector
- CircularityCalculator
- ClosedCurveFilter
- CommonSegmentFinder
- ConvexityFilter
- CRCCalculator
- DimensionExtractor
- DuplicateFilter
- ElevationExtractor
- FeatureTypeFilter
- GeometryFilter
- GeometryPartCounter
- GeometryValidator
- HoleCounter
- Inspector
- JSONValidator
- ListDuplicateRemover
- ListElementCounter
- ListHistogrammer
- Matcher
- NullAttributeMapper
- PlanarityFilter
- Sampler
- Snapper
- Snipper
- SpatialFilter
- SpatialRelator
- SpikeRemover
- SummaryReporter
- Tester
- TestFilter
- VertexCounter

Category: Database

Transformers that are useful for working with databases.

- AggregateFilter
- Aggregator
- AttributeEncoder
- AttributeFilter
- AttributeKeeper
- AttributeManager
- AttributeRangeFilter
- AttributeRangeMapper
- AttributeRenamer
- AttributeRounder
- AttributeSplitter
- AttributeTrimmer
- AttributeValidator
- AttributeValueMapper
- BinaryDecoder
- BinaryEncoder
- ChangeDetector
- DatabaseDeleter
- DatabaseJoiner
- DatabaseUpdater
- DateTimeCalculator
- DateTimeConverter
- DateTimeRounder
- DateTimeStamper
- Deaggregator
- DuplicateFilter
- ExcelStyler
- FeatureJoiner
- FeatureMerger
- FeatureReader
- FeatureTypeFilter
- FeatureWriter
- GeometryFilter
- GoogleBigQueryConnector
- InlineQuerier
- Matcher
- NullAttributeMapper
- SchemaMapper
- SchemaScanner
- Sorter
- SpatialFilter
- SQLCreator
- SQLExecutor
- StringCaseChanger
- StringConcatenator
- StringFormatter

- Tester
- TestFilter
- TextDecoder
- TextEncoder

Category: Filters and Joins

Transformers for dividing and merging data in a workflow based on attribute values, geometry characteristics, and spatial relationships.

- AggregateFilter
- Aggregator
- AreaOnAreaOverlayer
- AttributeFilter
- AttributePivoter
- AttributeRangeFilter
- ChangeDetector
- ClosedCurveFilter
- ConvexityFilter
- DatabaseJoiner
- Deaggregator
- DuplicateFilter
- FeatureJoiner
- FeatureMerger
- FeatureReader
- FeatureTypeFilter
- GeometryFilter
- LineOnAreaOverlayer
- LineOnLineOverlayer
- ListBasedFeatureMerger
- MultipleGeometryFilter
- NeighborhoodAggregator
- NLPClassifier
- NLPTrainer
- PlanarityFilter
- PointCloudFilter
- PointCloudMerger
- PointOnAreaOverlayer
- PointOnLineOverlayer
- PointOnPointOverlayer
- RasterMosaicker
- Sampler
- SpatialFilter
- SpatialRelator
- Tester
- TestFilter
- TraitMerger

Category: Format-Specific

Transformers related to specific data formats, or that require selection of a format.

- ArcGISGridSnapper
- AttributeFileReader
- AttributeFileWriter
- DatabaseDeleter
- DatabaseUpdater
- DGNStyler
- DWGStyler
- EsriReprojector
- ExcelStyler
- FeatureReader
- FeatureWriter
- GeometryExtractor
- GeometryReplacer
- GeoRSSFeatureComposer
- GeoRSSFeatureReader
- GMLFeatureComposer
- HTMLLayouter
- HTMLReportGenerator
- HTMLToXHTMLConverter
- IFCPropertySetDefinitionCreator
- IFCQuantitySetDefinitionCreator
- JSONExtractor
- JSONFlattener
- JSONFormatter
- JSONFragmenter
- JSONTemplater
- JSONUpdater
- JSONValidator
- KMLPropertySetter
- KMLRegionSetter
- KMLStyler
- KMLTimeSetter
- KMLTourBuilder
- KMLViewSetter
- MapboxStyler
- MapInfoStyler
- PDFPageFormatter
- PDFStyler
- RCaller
- RevitStyler
- WebMapTiler
- XMLAppender
- XMLFeatureMapper
- XMLFlattener
- XMLFormatter
- XMLFragmenter

- XMLNamespaceDeclarer
- XMLSampleGenerator
- XMLTemplater
- XMLUpdater
- XMLValidator
- XMLXQueryExploder
- XMLXQueryExtractor
- XMLXQueryUpdater
- XSLTProcessor
- YAMLtoJSONConverter

Category: Geometries

Transformers that create or manipulate geometry.

- 2DArcReplacer
- 2DBoxReplacer
- 2DEllipseReplacer
- 2DForcer
- 2DGridAccumulator
- 2DGridCreator
- 3DArcReplacer
- 3DForcer
- 3DInterpolator
- 3DRotator
- AffineWarper
- AnchoredSnapper
- AngleConverter
- ArcEstimator
- ArcGISGridSnapper
- ArcPropertySetter
- ArcStroker
- AreaAmalgamator
- AreaBuilder
- AreaGapAndOverlapCleaner
- BoundingBoxReplacer
- CenterlineReplacer
- CenterPointReplacer
- Chopper
- CityEngineModelGenerator
- CoordinateRounder
- CoordinateSwapper
- CSGBuilder
- Curvefitter
- Densifier
- Displacer
- Dissolver
- DonutBridgeBuilder
- DonutBuilder
- DonutHoleExtractor
- EllipsePropertySetter
- Extruder
- FaceReplacer
- Generalizer
- GeometryCoercer
- GeometryExtractor
- GeometryRefiner
- GeometryRemover
- GeometryReplacer
- H3HexagonalIndexer
- HullReplacer

- Intersector
- LabelPointReplacer
- LineBuilder
- LineCloser
- LineCombiner
- LineExtender
- MeasureRemover
- MeasureSetter
- MeshMerger
- MeshSimplifier
- MinimumAreaForcer
- MinimumSpanningCircleReplacer
- MultipleGeometrySetter
- OffsetCurveGeneratorOffsetter
- Orientor
- PathBuilder
- PathSplitter
- PipeEvaluator
- PipeReplacer
- PointCloudSurfaceBuilder
- PointPropertySetter
- Rotator
- RubberSheeter
- Scaler
- SherbendGeneralizer
- Snapper
- Snipper
- SolidBuilder
- SolidDissolver
- SpikeRemover
- SurfaceDissolver
- SurfaceFootprintReplacer
- SurfaceSplitter
- TextAdder
- Tiler
- TINGenerator
- Triangulator
- VertexCreator
- VertexNormalGenerator
- VertexNormalRemover
- VertexRemover

Category: Integrations

Transformers that integrate external tools such as web services and apps.

- ArcGISOnlineConnector
- AutodeskBIM360DocsConnector
- AutodeskDocsConnector
- AzureBlobStorageConnector
- AzureFileStorageConnector
- AzureQueueStorageConnector
- AzureServiceBusConnector
- BoxConnector
- CityEngineModelGenerator
- CKANConnector
- CsmapAttributeReprojector
- CsmapReprojector
- DatabaseDeleter
- DatabaseUpdater
- DirectTweeter
- DropboxConnector
- Emailer
- EsriReprojector
- FMEFlowJobSubmitter
- FMEFlowJobWaiter
- FMEFlowLogFileRetriever
- FMEFlowNotifier
- FMEFlowResourceConnector
- FTPCaller
- Geocoder
- GoogleCloudStorageConnector
- GoogleDriveConnector
- GridInQuestIIReprojector
- GtransAttributeReprojector
- GtransReprojector
- HDFSConnector
- HTMLExtractor
- JMSReceiver
- JMSSender
- KinesisReceiver
- KinesisSender
- OneDriveConnector
- PROJAttributeReprojector
- ProjectWiseWSGConnector
- PROJReprojector
- RabbitMQConnector
- RCaller
- ReframeReprojector
- S3Connector
- SalesforceConnector
- SharePointOnlineConnector

- SlackConnector
- SNSSender
- TCPIPReceiver
- TCPIPSender
- TransporterReceiver
- TransporterSender
- TrelloConnector
- TrimbleConnectConnector
- Tweeter
- TweetSearcher
- TweetStreamer
- TwitterStatusFetcher

Category: Point Clouds

Transformers used with point cloud features.

- DEMGenerator
- GeometryCoercer
- PointCloudCombiner
- PointCloudComponentAdder
- PointCloudComponentCopier
- PointCloudComponentKeeper
- PointCloudComponentRemover
- PointCloudComponentRenamer
- PointCloudComponentTypeCoercer
- PointCloudConsumer
- PointCloudCreator
- PointCloudExpressionEvaluator
- PointCloudExtractor
- PointCloudFilter
- PointCloudMerger
- PointCloudOnRasterComponentSetter
- PointCloudPropertyExtractor
- PointCloudReplacer
- PointCloudSimplifier
- PointCloudSorter
- PointCloudSplitter
- PointCloudStatisticsCalculator
- PointCloudSurfaceBuilder
- PointCloudThinner
- PointCloudToPointCoercer
- PointCloudTransformationApplier
- SurfaceDraper
- SurfaceModeller

Category: Rasters

Transformers used with raster features.

- AppearanceExtractor
- AppearanceMerger
- AppearanceRemover
- AppearanceSetter
- AppearanceStyler
- ChartGenerator
- DEMDistanceCalculator
- GoogleVisionConnector
- ImageFetcher
- ImageRasterizer
- MapnikRasterizer
- NumericRasterizer
- PointCloudOnRasterComponentSetter
- PointOnRasterValueExtractor
- RasterAspectCalculator
- RasterBandAdder
- RasterBandCombiner
- RasterBandInterpretationCoercer
- RasterBandKeeper
- RasterBandMinMaxExtractor
- RasterBandNameSetter
- RasterBandNodataRemover
- RasterBandNodataSetter
- RasterBandOrderer
- RasterBandPropertyExtractor
- RasterBandRemover
- RasterBandSeparator
- RasterCellCoercer
- RasterCellOriginSetter
- RasterCellValueCalculator
- RasterCellValueReplacer
- RasterCellValueRounder
- RasterCheckpointer
- RasterConsumer
- RasterConvolver
- RasterDEMGenerator
- RasterDiffuser
- RasterExpressionEvaluator
- RasterExtentsCoercer
- RasterExtractor
- RasterGCPExtractor
- RasterGCPSetter
- RasterGeoreferencer
- RasterHillshader
- RasterInterpretationCoercer
- RasterMosaicker

- RasterNumericCreator
- RasterObjectDetectionModelTrainer
- RasterObjectDetector
- RasterObjectDetectorSampleGenerator
- RasterObjectDetectorSamplePreparer
- RasterPaletteAdder
- RasterPaletteExtractor
- RasterPaletteGenerator
- RasterPaletteInterpretationCoercer
- RasterPaletteNodataSetter
- RasterPaletteRemover
- RasterPaletteResolver
- RasterPropertyExtractor
- RasterPyramider
- RasterRegisterer
- RasterReplacer
- RasterResampler
- RasterRGBCreator
- RasterRotationApplier
- RasterSegmenter
- RasterSelector
- RasterSingularCellValueCalculator
- RasterSlopeCalculator
- RasterStatisticsCalculator
- RasterSubsetter
- RasterTiler
- RasterToPolygonCoercer
- RCaller
- TextStroker
- VectorOnRasterOverlayer
- WebMapTiler

Category: Spatial Analysis

Transformers that provide information or manipulate geometry based on spatial relationships.

- AffineWarper
- AnchoredSnapper
- ArcGISGridSnapper
- AreaAmalgamator
- AreaBuilder
- AreaOnAreaOverlayer
- BoundingBoxAccumulator
- Bufferer
- CenterlineReplacer
- CenterPointReplacer
- Clipper
- ContourGenerator
- DEMDistanceCalculator
- Displacer
- Dissolver
- DonutBridgeBuilder
- FeatureReader
- HullAccumulator
- Intersector
- LineOnAreaOverlayer
- LineOnLineOverlayer
- NeighborFinder
- NeighborhoodAggregator
- NeighborPairFinder
- NetworkCostCalculator
- NetworkFlowOrientor
- NetworkTopologyCalculator
- Offsetter
- PointOnAreaOverlayer
- PointOnLineOverlayer
- PointOnPointOverlayer
- PointOnRasterValueExtractor
- SectorGenerator
- ShortestPathFinder
- Snapper
- SolidDissolver
- SpatialFilter
- SpatialRelator
- SpatialSorter
- SurfaceBuilder
- SurfaceDissolver
- SurfaceDraper
- SurfaceOnSurfaceOverlayer
- TopferIndexCalculator
- TopologyBuilder
- VectorOnRasterOverlayer

- VoronoiCellGenerator
- VoronoiDiagrammer

Category: Strings

Transformers to manipulate strings, including dates.

- AngleConverter
- AttributeCompressor
- AttributeDecompressor
- AttributeEncoder
- AttributeExploder
- AttributePivoter
- AttributeRangeMapper
- AttributeReprojector
- AttributeRounder
- AttributeSplitter
- AttributeTrimmer
- AttributeValidator
- AttributeValueMapper
- BaseConverter
- BinaryDecoder
- BinaryEncoder
- CharacterCodeExtractor
- CharacterCodeReplacer
- CoordinateConcatenator
- CoordinateSystemDescriptionConverter
- DateTimeConverter
- DimensionExtractor
- ElevationExtractor
- ExpressionEvaluator
- FilenamePartExtractor
- HTMLExtractor
- HTMLToXHTMLConverter
- ListDuplicateRemover
- ListSearcher
- ListSummer
- NLPClassifier
- NLPTrainer
- NullAttributeMapper
- RandomNumberGenerator
- StringCaseChanger
- StringConcatenator
- StringFormatter
- StringLengthCalculator
- StringPadder
- StringPairReplacer
- StringReplacer
- StringSearcher
- SubstringExtractor
- TextDecoder
- TextEncoder

Category: Web

Transformers related to data and services on the internet and web-based usage of languages such as XML and JSON.

- AmazonAthenaConnector
- ArcGISOnlineConnector
- AttributeEncoder
- AutodeskBIM360DocsConnector
- AutodeskDocsConnector
- AWSIoTConnector
- AzureBlobStorageConnector
- AzureComputerVisionConnector
- AzureEventHubsConnector
- AzureFileStorageConnector
- AzureIoTConnector
- AzureQueueStorageConnector
- AzureServiceBusConnector
- AzureTextAnalyticsConnector
- BoxConnector
- CesiumIonConnector
- ChartGenerator
- CKANConnector
- ComprehendConnector
- Decelerator
- DirectTweeter
- DropboxConnector
- Emailer
- EthereumConnector
- FMEFlowJobSubmitter
- FMEFlowJobWaiter
- FMEFlowLogFileRetriever
- FMEFlowNotifier
- FMEFlowResourceConnector
- FTPCaller
- Generalizer
- Geocoder
- GeoRSSFeatureComposer
- GeoRSSFeatureReader
- GoogleBigQueryConnector
- GoogleCloudPubSubConnector
- GoogleCloudStorageConnector
- GoogleDriveConnector
- GoogleIoTConnector
- GoogleLanguageConnector
- GoogleVisionConnector
- HDFSConnector
- HTMLExtractor
- HTMLLayouter
- HTMLReportGenerator
- HTMLToXHTMLConverter

- HTTPCaller
- IBMIoTConnector
- JMSReceiver
- JMSSender
- JSONExtractor
- JSONFlattener
- JSONFormatter
- JSONFragmenter
- JSONTemplater
- JSONUpdater
- JSONValidator
- KafkaConnector
- MQTTConnector
- OneDriveConnector
- OpenAPICaller
- ParameterFetcher
- ProjectWiseWSGConnector
- RabbitMQConnector
- RasterPyramider
- RekognitionConnector
- S3Connector
- SalesforceConnector
- SharePointOnlineConnector
- SlackConnector
- SNSSender
- SQSConnector
- TCPIPReceiver
- TCPIPSender
- TrelloConnector
- TrimbleConnectConnector
- Tweeter
- TweetSearcher
- TweetStreamer
- TwitterStatusFetcher
- WebMapTiler
- WebSocketConnector
- XMLAppender
- XMLFeatureMapper
- XMLFlattener
- XMLFormatter
- XMLFragmenter
- XMLNamespaceDeclarer
- XMLSampleGenerator
- XMLTemplater
- XMLUpdater
- XMLValidator
- XMLXQueryExploder
- XMLXQueryExtractor
- XMLXQueryUpdater
- XSLTProcessor

Category: Workflows

Transformers that control workflow, performing tasks such as data reading and writing, database queries, feature routing, logging and inspection, handling of variables and parameters, and external calls.

- ArcGISOnlineConnector
- AttributeFileReader
- AttributeFileWriter
- AutodeskBIM360DocsConnector
- AutodeskDocsConnector
- AzureBlobStorageConnector
- AzureFileStorageConnector
- AzureQueueStorageConnector
- AzureServiceBusConnector
- BoxConnector
- CKANConnector
- Cloner
- Creator
- DatabaseDeleter
- DatabaseUpdater
- Decelerator
- DropboxConnector
- EnvironmentVariableFetcher
- FeatureHolder
- FeatureReader
- FeatureTypeExtractor
- FeatureWriter
- FMEFlowJobSubmitter
- FMEFlowJobWaiter
- FMEFlowLogFileRetriever
- FMEFlowNotifier
- FMEFlowResourceConnector
- FMEFunctionCaller
- FTPCaller
- GeometryExtractor
- GeometryReplacer
- GoogleCloudStorageConnector
- GoogleDriveConnector
- HDFSConnector
- HTMLExtractor
- HTTPCaller
- ImageFetcher
- InlineQuerier
- Inspector
- Junction
- Logger
- LogMessageStreamer
- OneDriveConnector
- OpenAPICaller
- ParameterFetcher
- Player

- ProjectWiseWSGConnector
- PythonCaller
- PythonCreator
- RabbitMQConnector
- RasterCheckpointer
- Recorder
- S3Connector
- SalesforceConnector
- Sampler
- SchemaMapper
- SchemaScanner
- SharePointOnlineConnector
- SlackConnector
- Sorter
- SpatialSorter
- SQLCreator
- SQLExecutor
- SummaryReporter
- SystemCaller
- TCPIPReceiver
- TCPIPSender
- TempPathnameCreator
- Terminator
- TimeWindower
- TransporterReceiver
- TransporterSender
- TrelloConnector
- TrimbleConnectConnector
- VariableRetriever
- VariableSetter
- WebSocketConnector
- WorkspaceRunner
- XSLTProcessor

FME Transformers

Symbol Reference

NEW Transformers with this symbol are new in this version of FME.

Transformers with this symbol are downloadable from FME Hub.

Name	Summary
2DArcReplacer	Replaces or creates feature geometry with a 2D arc as defined in parameters for center point, radii, angles, and rotation.
2DBoxReplacer	Replaces the geometry of the feature with a two-dimensional box whose minima and maxima are fixed values, or are taken from attributes in the original feature.
2DEllipseReplacer	Replaces the geometry of the feature with a two-dimensional ellipse whose shape is set by the parameters, values or the values of existing attributes.
2DForcer	Removes z coordinates from features.
2DGridAccumulator	Replaces the input features with a grid of two-dimensional point or polygon features having the spacing specified covering (at least) the bounding box area of all the features which enter the transformer.
2DGridCreator	Creates a grid of two-dimensional point or polygon features, at the origin and using the offsets specified. Each created feature will have a row and column attribute that indicates its position in the grid.
3DAffiner	Performs a 3D affine transformation (such as offset, rotate, or scale) on the coordinates of the feature.

Name	Summary
3DArcReplacer	Replaces the geometry of the feature with a three-dimensional arc whose shape is set by the parameters, which can be either constant floating point values or the values of existing attributes.
3DForcer	Adds z coordinates to features, creating or modifying 3D geometry.
3DInterpolator	Interpolates elevation values along a non-aggregated linear feature from a starting value to an ending value.
3DRotator	Rotates features according to the right hand rule, and in a counter-clockwise direction about the specified axis of rotation.
Affiner	Performs an affine transformation (such as offset, rotate, or scale) on the coordinates of the feature.
AffineWarper	Performs warping operations on the spatial coordinates of features. It is used to adjust a set of observed input features according to a spatial transform defined by a set of control vectors.
AggregateFilter	Routes features differently depending on if their geometry consists of an aggregate of several geometries, or if it is a simple, single piece geometry.
Aggregator	Combines feature geometries into heterogeneous or homogeneous aggregates. Alternatively, combines feature attributes without any geometry.
 AmazonAthenaConnector	Accesses Amazon's Athena service to run queries on S3 datasets.

Name	Summary
AnchoredSnapper	Brings lines, segments, end points or vertex points of features together if they are within a certain distance of each other, where one set of features is non-moving.
AngleConverter	Converts angles of a feature's geometry and/or attributes from one representation to another.
AngularityCalculator	Calculates the "angularity" of a linear or area feature. Angularity indicates the degree of curvature of a feature. The higher the value, the more curved its geometry.
AppearanceExtractor	Extracts appearance style(s) from the front and/or back side of the geometries.
AppearanceMerger	Sets the front and/or back appearance style(s) of specified geometries to be identical to a specific source geometry.
AppearanceRemover	Removes appearances from the front and/or back side of geometries.
AppearanceSetter	Sets appearance style(s) onto the front and/or back sides of geometries.
AppearanceStyler	Creates an appearance style that can later be applied to a surface
ArcEstimator	Replaces the geometry of the feature with a two-dimensional circular arc whose shape is estimated from the first, middle, and last point of the linear feature passed in.
ArcGISGridSnapper	Simulates the Geodatabase conversion on a feature by snapping its vertices to a grid based on the associated feature class' storage resolution and origin.

Name	Summary
ArcGISOnlineConnector	Accesses Esri ArcGIS Online or Portal for ArcGIS to upload, manage, update, download, delete, publish, share, or list information about items from an Esri ArcGIS account.
ArcPropertyExtractor	Sets the given attributes to the properties of an arc geometry.
ArcPropertySetter	Sets the properties of an arc geometry to those specified.
ArcStroker	Converts arc features into lines replacing the feature geometry with a series of edges interpolated along the arc boundary. Ellipse features are converted into polygons by interpolating edges along the elliptical boundary.
AreaAmalgamator	Generalizes polygonal input by connecting nearby geometries.
AreaBuilder	Takes a set of topologically connected linework and creates topologically correct polygon features where the linework forms closed shapes.
AreaCalculator	Calculates the area of a polygonal object and stores the value in an attribute.
AreaGapAndOverlapCleaner	Repairs area topologies by resolving gaps and overlaps between adjacent areas.
AreaOnAreaOverlayer	Performs an area-on-area overlay (intersection of polygons) so that all input areas are intersected against each other and resultant area features are created and output. The resultant areas can accumulate attribute from any overlapping polygons.

Name	Summary
AttributeCompressor	Compresses and (optionally) encrypts the values of the specified attributes. The compressed and encrypted attribute values can be decompressed and decrypted using the AttributeDecompressor.
AttributeCopier	Copies existing attributes to new attributes with user-specified names. The existing attribute remains intact and a new attribute is created that has a different name, but the same values.
AttributeCreator	Adds one or more attributes to features, optionally assigning values. Values may reference adjacent features.
AttributeDecompressor	Decompresses and decrypts the values of the specified attributes that were compressed by the AttributeCompressor.
AttributeDereferencer	Sets an attribute value by following a reference from one attribute to another, where the first attribute contains the name of the desired (second) attribute. The referenced value is retrieved and assigned to a new attribute.
AttributeEncoder	Encodes the values of the specified attributes to the desired encoding.
AttributeExploder	Creates value pairs (attribute name and attribute value) for every attribute on a feature, and either adds them to a list attribute or creates new features (one for each pair) with new attributes containing both values.
AttributeExposer	Exposes attributes so they can be accessed by downstream transformers and writers.

Name	Summary
AttributeFileReader	Reads the contents of an external text or binary file and attaches it to a feature as the value of an attribute.
AttributeFileWriter	Writes the contents of an attribute to a text or binary file.
AttributeFilter	Routes features to different output ports depending on the value of an attribute. The set of possible attribute values can be entered manually, or extracted from an input source in the properties dialog.
AttributeKeeper	Removes all attributes and list attributes, except the specific ones you specify to be retained.
AttributeManager	Alters one or more attributes by adding, renaming, copying, deleting or re-ordering. Sets values for new, existing, and modified attributes to any combination of constants, attribute values, conditionals, expressions, and parameters.
AttributePivoter	Restructures and regroups incoming features based on specified Group By attributes and calculates summary statistics to form a Pivot table output.
AttributeRangeFilter	Routes features based on user-defined numeric value ranges.
AttributeRangeMapper	Classifies features according to user-defined numeric value ranges, adding a new attribute containing the name of the range it falls within.
AttributeRemover	Removes the selected attributes and list attributes from the feature.
AttributeRenamer	Renames one or more attributes, retaining the attribute's current values.

Name	Summary
AttributeReprojector	Reprojects x and y coordinates stored as attributes from one coordinate system to another.
AttributeRounder	Rounds off attributes with numeric values to the specified number of decimal places. Rounding may be nearest, up, or down.
AttributeSplitter	Splits attribute values into parts, based on a delimiter or fixed-width pattern, and creates a list attribute containing one list element for each part.
AttributeTrimmer	Removes specified leading and trailing characters from selected attributes.
AttributeValidator	Validates any number of attributes against user-defined test conditions, routing the feature according to the outcome of the test(s) and identifying any tests it has failed.
AttributeValueMapper	Compares attribute values to a lookup table and assigns new values where matches are found. Mapped values may be stored in a new attribute, or overwrite an existing attribute, including the original source.
 AutodeskBIM360DocsConnector	(Deprecated) Accesses BIM 360 Docs and Autodesk Construction Cloud to upload, download, or delete files and folders or list file/folder information.
 AutodeskDocsConnector	Accesses Autodesk Docs, Autodesk Construction Cloud or BIM 360 Document to upload, download, or delete files and folders or list file/folder information.
 AWSIoTConnector	Connects to the AWS IoT Core messaging broker. Supports sending (producing) and receiving (consuming) messages.

Name	Summary
AzureBlobStorageConnector	Accesses the Azure Blob Storage file storage service to upload, download, or delete files and folders or list file/folder information from an Azure account.
AzureComputerVisionConnector	Accesses the Azure Computer Vision Service to detect objects in images.
AzureEventHubsConnector	Accesses the Azure Event Hubs to send, receive, or checkpoint messages.
AzureFileStorageConnector	Accesses the Azure File Storage file storage service to upload, download, or delete files and folders or list file/folder information from an Azure account.
AzureIoTConnector	Connects to Azure's IoT Hub through the MQTT protocol. Supports publishing device-to-cloud messages and receiving cloud-to-device messages as a device.
AzureQueueStorageConnector	Accesses the Azure Queue Storage service to send or receive messages.
AzureServiceBusConnector	Connects to Azure's Service Bus using the Azure Service Bus SDK.
AzureTextAnalyticsConnector	Accesses Azure's Text Analytics Service for natural language processing on text.

Name	Summary
BaseConverter	Converts an attribute's value from one numeric system (base) to another, putting the resulting value in a new attribute.
BinaryDecoder	Decodes Base64 or HEX text to binary data.
BinaryEncoder	Encodes binary data to text using Base64 or HEX encoding methods. The transformer can convert attributes that contain any type of data. This is useful when a binary file, such as an image, must be included in a text file.
BoundingBoxAccumulator	Takes a set of point, linear, polygonal, and/or aggregate features, and creates a two-dimensional bounding box, which contains all features.
BoundingBoxReplacer	Replaces the geometry of the feature with either its two-dimensional bounding box, its two-dimensional minimum oriented bounding box, or its three-dimensional bounding cube.
BoundsExtractor	Extracts the minimum and maximum values of the feature’s coordinates into new attributes.
BoxConnector	Accesses the Box file storage service to upload, download, or delete files and folders or list file/folder information from a Box account.
Bufferer	Creates a buffer zone of specified size around or inside input geometry.
BulkAttributeRemover	Removes all attributes with names that match a given regular expression. This transformer can be used to remove large numbers of attributes that have common naming patterns.

Name	Summary
BulkAttributeRenamer	Renames attributes by adding or removing prefixes or suffixes, or replacing text using regular expressions or character strings. This transformer is useful if you need to quickly rename all (or many) of your attributes.
CenterlineReplacer	Replaces area geometries with their centerlines or straight skeletons. This transformer works best with long, narrow areas.
CenterPointExtractor	Extracts the x, y, and z coordinate values of a calculated point in the center of a feature, and adds them as attributes.
CenterPointReplacer	Replaces the geometry of the feature with a point that is either in the center of the feature's bounding box, at the center of mass of the feature, or somewhere guaranteed to be inside the feature's area.
 CesiumIonConnector	Uploads a folder dataset to the Cesium ion service as a new asset.
ChangeDetector	Detects changes between two sets of input features.
CharacterCodeExtractor	Extracts the character code of the first character in the input string attribute, and adds its integer value in the character set to the feature as another attribute.
CharacterCodeReplacer	Sets the result attribute to the character whose numeric code was contained in the source code attribute (or the entered integer).

Name	Summary
ChartGenerator	Creates a raster Line, Bar, Scatter, Histogram or Pie chart based on the values of selected attributes, featuring an interactive interface that allows the user to preview selected features with sample data while designing the layout of their chart.
Chopper	Breaks input features into points, lines, or areas. Chopped features contain the same set of vertices as input features.
CircularityCalculator	Calculates the "circularity" of an area feature, which indicates how elongated the feature is.
 CityEngineModelGenerator	Generates 3D models from input geometries and ArcGIS CityEngine rule packages (*.rpk).
 CKANConnector	Connects to a CKAN open data portal using the CKAN Action REST API. Supports reading and writing CKAN Dataset and Resource metadata, downloading of file-based Resources, and uploading files to the CKAN FileStore. Does not support row-based operations against CKAN DataStore Resources.
Classifier	Sorts and groups features into a number of classes based on an attribute value, storing their class ID in a specified output attribute.
Clipper	Divides Candidate features using Clipper features, so that Candidates and parts of Candidates that are inside or outside of the Clipper features are output separately. Attributes may be shared between objects (spatial join).

Name	Summary
Cloner	Makes the specified number of copies of the input features and outputs all copies through its single output port.
ClosedCurveFilter	Checks if curves form closed loops.
CommonLocalReprojector	Reprojects one or more features to a local coordinate system centered on the bounding box containing all features.
CommonSegmentFinder	Tests to see which of the Candidate features have even one line segment in common with any Base feature.
ComprehendConnector	Accesses the Amazon AI Comprehend Service for natural language processing on text.
ContourGenerator	Constructs a Delaunay triangulation based on input points and breaklines. Contour lines are then generated from the triangulation.
ConvexityFilter	Determines whether areas, surfaces, and solids are convex or concave.
CoordinateConcatenator	Retrieves the values of all the feature's coordinates into a single string attribute value, separated by delimiters.
CoordinateExtractor	Retrieves either specified individual coordinates or all coordinate values from geometry, adding them to the feature as attributes.
CoordinateRounder	Rounds off the coordinates of the feature to the specified number of decimal places.
CoordinateSwapper	Swaps coordinate axes of the input features.

Name	Summary
CoordinateSystemDescriptionConverter	Looks up coordinate system names and definitions between FME's internal format and common third-party and open source representations, storing the results as an attribute.
CoordinateSystemExtractor	Retrieves the name of the feature's assigned FME coordinate system into an attribute.
CoordinateSystemRemover	Removes the assigned coordinate system from features, without modifying geometry or coordinates.
CoordinateSystemSetter	Assigns a user-specified coordinate system to features, without modifying geometry or coordinates.
Counter	Adds a numeric attribute to a feature and assigns a value. Each subsequent feature passing through the transformer receives an incremented value, counting the features.
CRCCalculator	Calculates a CRC (Cyclic Redundancy Check) value for a feature and places the calculated CRC value into the attribute specified.
Creator	Creates features using the parameters supplied, and sends them into the workspace for processing.
CSGBuilder	Creates Constructive Solid Geometry (CSG) from pairs of solid geometry features which are input through the A and B ports.
CSGEvaluator	Recursively replaces the geometry of a feature that has CSG (Constructive Solid Geometry) by evaluating the tree of the CSG solid, effectively removing the constructive aspect of the geometry.

Name	Summary
CsmapAttributeReprojector	Reprojects coordinates stored as attributes from one coordinate system to another using the CS-MAP library.
CsmapReprojector	Reprojects feature coordinates from one coordinate system to another using the CS-MAP library.
Curvefitter	Smooths lines derived from line segments, points or raster data, and replaces a series of line segments with the optimal combination of straight lines and embedded arc segments required to create smooth curving lines.
DatabaseDeleter	Delete rows in a database table based on the condition specified.
DatabaseJoiner	Joins attributes from an external table to features already in a workspace, based on a common key or keys.
DatabaseUpdater	Update fields in a database table based on the condition specified.
DateTimeCalculator	Performs arithmetic on date, time, datetime, and interval values.
DateTimeConverter	Converts a set of input date/time attributes from one format to another, in place.
DateTimeRounder	Rounds a DateTime value's day, hour, minute, or second to a specified interval.
DateTimeStamper	Adds a timestamp to a feature as a new attribute in the form of a date, time (with or without UTC offset), or datetime (with or without UTC offset), in local or UTC time.

Name	Summary
Deaggregator	Decomposes an aggregate feature into its components.
Decelerator	Slows down the flow of features through the workspace.
DecimalDegreesCalculator	Calculates a decimal degree value from separate degrees, minutes, and seconds (DMS) values, provided as attributes.
DEMDistanceCalculator	Calculates the distance between a number of input vector lines and the elevation values of a reference DEM raster, and outputs a new DEM raster per input line.
DEMGenerator	Constructs a Delaunay triangulation based on input points and breaklines. That triangulation is then uniformly sampled to produce a digital elevation model (DEM points).
Densifier	Adds vertices to each feature by interpolating new coordinates at fixed intervals.
DensityCalculator	Determines the density of a group of Candidate features.
DGNStyler	Prepares features for output to Bentley Microstation Design V7/V8 by providing a convenient interface to set a variety of Bentley Microstation Design format-specific attributes.
DimensionExtractor	Extracts a feature's number of dimensions, storing the resulting value of 2 or 3 in an attribute.
DirectTweeter	Sends a Twitter™ direct message from FME.

Name	Summary
Displacer	Solves proximity conflicts between features using a variant of the Nickerson displacement algorithm. This transformer is usually used after generalization.
Dissolver	Dissolves area features by removing common boundaries to create larger areas. Input attributes may be accumulated.
DMSCalculator	Calculates degrees, minutes, and seconds (DMS) from a decimal degrees value provided as an attribute.
DonutBridgeBuilder	Builds connections between donut holes with the outer boundary of a donut, resulting in a polygon-equivalent representation of the input donut.
DonutBuilder	Cuts holes in polygonal features by making polygons completely enclosed in other polygons into holes of the containing polygon.
DonutHoleExtractor	Splits an area feature with holes into its component rings.
DropboxConnector	Accesses the Dropbox file storage service to upload, download, or delete files and folders or list the contents of a folder from a Dropbox account.
DuplicateFilter	Detects duplicate features based on the value of one or more key attributes.
DWGStyler	Prepares features for output to AutoCAD DWG/DXF by providing a convenient interface to set a variety of AutoCAD DWG/DXF format-specific attributes.
ElevationExtractor	Extracts a feature's first z coordinate value, storing it in an attribute.

Name	Summary
EllipsePropertyExtractor	Sets the given attributes to the properties of an ellipse geometry.
EllipsePropertySetter	Sets the properties of an ellipse geometry.
 Emailer	Sends one email per input feature via Simple Mail Transfer Protocol (SMTP), Gmail, or Microsoft Mail. Both HTML and Plain Text emails may be sent, each with one or more attachments.
EnvironmentVariableFetcher	Fetches the specified environment variable and includes it in a new attribute.
EsriReprojector	Reprojects feature coordinates from one coordinate system to another using the Esri reprojection engine.
 EthereumConnector	Interacts with the Ethereum blockchain network. The functions include reading transaction, address, or block information, sending transactions, or interaction with deployed contracts.
ExcelStyler	Sets Excel row and cell styling using attributes on output features destined for the Excel Writer.
ExpressionEvaluator	Performs a mathematical calculation on an expression that consists of FME Feature Functions, String Functions, Math Functions, and Math Operators. The operands and function arguments consist of attributes on the input feature, constant literals, published and private parameters, as well as functions and operators.
Extruder	Creates line, surface or solid geometries with a fixed cross-sectional profile taken from the original geometry of the feature.

Name	Summary
FaceReplacer	Replaces the geometry of a feature from donut, raster, or polygon to face. If the donut or polygon is not already three-dimensional, a 0.0 value for Z coordinates is assumed.
FeatureColorSetter	Assigns colors to incoming features.
FeatureHolder	Stores incoming features until they have all arrived, and then releases them in their original order.
FeatureJoiner	Joins features by combining the attributes and/or geometry of features based on common key attribute values. Performs Left, Inner, and Full joins.
FeatureMerger	Merges the attributes and/or geometry of one set of features onto another set of features, based on matching key attribute values and expressions.
FeatureReader	Reads features from any FME-supported format.
FeatureTypeExtractor	Adds an attribute containing the original feature type of a feature.
FeatureTypeFilter	Routes input features to different output ports based on their original feature type.
FeatureWriter	Writes features to any FME-supported writer.
FilenamePartExtractor	Extracts specified parts of a filename path and returns the results as string attributes.
FMEFlowJobSubmitter	Submits FME jobs to be run on FME Flow. A job consists of a workspace (housed within a repository on FME Flow) together with values for each of its published parameters.

Name	Summary
FMEFlowJobWaiter	Waits until submitted FME jobs are started or finished by FME Flow.
FMEFlowLogFileRetriever	Accesses the translation log for a specified FME Flow-run translation.
FMEFlowNotifier	Sends a notification to a specified FME Flow instance.
FMEFlowResourceConnector	Accesses the FME Flow file storage service to upload, download, or delete files and folders or list information about files/folders from an FME Flow account.
FMEFunctionCaller	Calls a specified FME function, optionally storing the resulting value in an attribute.
FTPCaller	Uploads and downloads data from an FTP server. The transformer allows uploads from attribute values or from a file. Remote files may be downloaded into a local file, or into a feature attribute. The transformer also supports deleting remote files.
GCMMessenger	Sends messages to Android devices using Google Cloud Messaging (GCM).
Generalizer	Transforms or measures geometry features based on a specified algorithm.
Geocoder	Uses various external web services to convert addresses to latitude/longitude coordinates, or to find the closest addresses to latitude/longitude coordinates (reverse geocode). Some services have additional information available, such as time zone or elevation.
GeometryCoercer	Resets the geometry type of the feature.

Name	Summary
GeometryColorSetter	Sets colors, via appearances, on geometries (such as surfaces) that support appearances, and match a Geometry XQuery.
GeometryExtractor	Extracts the geometry of a feature according to the setting of the geometry encoding parameter.
GeometryFilter	Routes features based on their geometry type.
GeometryInstantiator	Replaces a geometry definition with independent geometry instances that are copies of the original geometry definition.
GeometryPartCounter	Returns the number of parts in the geometry. For multis and aggregates, this is the number of parts, and for paths, this is the number of segments. Otherwise, it is one.
GeometryPartExtractor	Extracts selected geometry parts based on a Geometry XQuery.
GeometryPropertyExtractor	Extracts selected geometry names or traits to feature attributes.
GeometryPropertyRemover	Removes selected geometry names or traits.
GeometryPropertyRenamer	Renames geometry names or traits.
GeometryPropertySetter	Sets selected geometry names or traits from feature attributes or constants.
GeometryRefiner	Performs refinements on features geometry.
GeometryRemover	Removes geometry from features.

Name	Summary
GeometryReplacer	Replaces the geometry of a feature according to the setting of the geometry encoding parameter. This transformer is typically used to restore geometry previously extracted into an attribute by the GeometryExtractor.
GeometryValidator	Detects selected issues in input features, and optionally repairs detected issues.
GeoRSSFeatureComposer	Constructs GeoRSS documents from the input features and stores them in the specified attribute for the features that are output by the GeoRSS port.
GeoRSSFeatureReader	Constructs features out of GeoRSS documents/URLs that are stored in a specified attribute of the input features. The features from the GeoRSS document/URL are output with the attributes from the original feature and are merged, if desired.
GMLFeatureComposer	Writes out GML features corresponding to feature types from existing GML application schema.
GOIDGenerator	Calculates a GOID (Geographic Object IDentifier) for each incoming feature, and adds it as a new attribute.
 GoogleBigQueryConnector	Accesses the Google BigQuery service to load or query tables from a Google Cloud account.
 GoogleCloudPubSubConnector	Connects to the Google Cloud Pub/Sub service to create topics and subscriptions or send and receive messages.

Name	Summary
GoogleCloudStorageConnector	Accesses the Google Cloud Storage file storage service to upload, download, or delete files and folders or list file/folder information from a Google Cloud Storage account.
GoogleDriveConnector	Accesses the Google Drive file storage service to upload, download, or delete files and folders or list the contents of a folder from a Google Drive account.
GoogleIoTConnector	Connects to the Google IoT Core. Supports sending (producing) and receiving (consuming) messages.
GoogleLanguageConnector	Accesses the Google Natural Language and Google Cloud Translation API for text analysis, such as language and sentiment detection.
GoogleVisionConnector	Accesses the Google Vision AI API for image recognition.
GridInQuestIIReprojector	Reprojects feature coordinates from one coordinate system to another using the Grid InQuestII engine from Ordnance Survey, for use in Great Britain, Ireland, and Northern Ireland.
GtransAttributeReprojector	Reprojects coordinates stored as attributes from one coordinate system to another using the Gtrans reprojection engine from the National Land Survey of Sweden (Lantmäteriet).

Name	Summary
GtransReprojector	Reprojects feature coordinates from one coordinate system to another using the Gtrans reprojection engine from the National Land Survey of Sweden (Lantmäteriet).
H3HexagonalIndexer	Computes and manipulates hexagonal hierarchical spatial indexes (Uber H3), and enables spatial data to be grouped into hexagonal grid cells for analysis and visualization.
HDFSConnector	Accesses an HDFS (Hadoop Distributed File System) to upload, download, or delete files and folders; or list the contents of a folder from an HDFS service.
HoleCounter	Adds a new attribute whose value is the number of holes in the feature.
HTMLExtractor	Extracts structured data from web page or other HTML sources that are formatted for human readability (screen scraping), using CSS selectors to extract portions of HTML content into feature attributes.
HTMLLayouter	Allows users to combine web reports generated by the HTMLReportGenerator into a bootstrap grid or vertical layout.
HTMLReportGenerator	Allows users to create a basic web report of vertically-stacked elements using the geometry and selected attributes from features.
HTMLToXHTMLConverter	Converts HTML document into valid XHTML document.
HTTPCaller	Accesses a URL via HTTP or HTTPS, using a variety of HTTP methods.

Name	Summary
HullAccumulator	Creates convex or concave hulls for groups of features. One hull feature is output for each unique combination of values of the attributes specified in the Group By parameter.
HullReplacer	Replaces the geometry of the feature with a polygon representing its hull.
IBMIoTConnector	Connects to IBM's Watson IoT Platform through the MQTT protocol. Supports sending (producing) and receiving (consuming) messages.
IFCPropertySetDefinition Creator	Creates a feature whose attributes contain the definition of an IFC property set. The features output from this transformer are similar to the PropertySetDefinition features produced by the IFC reader.
IFCQuantitySetDefinition Creator	Creates a feature whose attributes contain the definition of an IFC quantity set. The features output from this transformer are similar to the QuantitySetDefinition features produced by the IFC reader.
ImageFetcher	Fetches an image by performing an HTTP GET operation on the specified URL, and then returning the resulting data as the geometry of a raster feature.
ImageRasterizer	Creates a raster representation of vector or point cloud input features.
InlineQuerier	Creates SQLite database tables from incoming features, executes SQL queries against them, and outputs the results as features.

Name	Summary
Inspector	Sends features to the FME Data Inspector for display.
Intersector	Computes intersections between all input features, breaking lines and polygons wherever an intersection occurs and creating nodes at those locations. Overlapping segments are reduced to one segment before being output.
JMSReceiver	Using the Java Message System (JMS), receives messages from a message broker.
JMSSender	Using the Java Message System (JMS), sends messages to a message broker.
JSONExtractor	Extracts portions of JSON (JavaScript Object Notation) formatted text into feature attributes.
JSONFlattener	Flattens JSON (JavaScript Object Notation) objects, extracting the object keys and values into FME feature attributes.
JSONFormatter	Provides options for formatting JSON (JavaScript Object Notation) text.
JSONFragmenter	Extracts portions of JSON (JavaScript Object Notation) formatted text into new FME features.
JSONTemplater	Populates a JSON document with FME feature attribute values. The document is provided as a template, and the transformer will use XQuery to insert attribute values and geometry information into the template.
JSONUpdater	Modifies JSON documents by performing one or more actions

Name	Summary
JSONValidator	Validates the syntax of JSON (JavaScript Object Notation) text.
Junction	Brings multiple connections together at a junction point, which outputs a single connection.
 KafkaConnector	Connects to Apache Kafka, Confluent, or RedPanda to send and receive messages.
KinesisReceiver	Using the Amazon Kinesis service, receives data records from an Amazon Kinesis stream.
KinesisSender	Using the Amazon Kinesis service, sends data records to an Amazon Kinesis stream.
KMLPropertySetter	Sets common properties for groups of vector and raster features destined for the OGCKML Writer.
KMLRegionSetter	Sets the region-related KML attributes for a group of features destined for the OGCKML Writer.
KMLStyler	Creates a common style for a group of features destined for the OGCKML writer.
KMLTimeSetter	Sets the time-related KML attributes for a group of features destined for the OGCKML Writer.
KMLTourBuilder	Generates a KML Tour from input features. The tour consists of tour stops that correspond to each input feature.
KMLViewSetter	Sets the view-related KML attributes for a group of features destined for the OGCKML Writer. Creation of LookAt or Camera views are supported.
Labeller	Interpolates labels along a linear or polygonal feature.

Name	Summary
LabelPointReplacer	Replaces the geometry of the feature with a label point.
LatLongToMGRSConverter	Calculates a Military Grid Reference System (MGRS) code based on latitude and longitude values.
LeftRightSpatialCalculator	Computes relative position of Candidate input features relative to Base input features.
LengthCalculator	Calculates the length of a feature and adds it as a new attribute.
LengthToPointCalculator	Calculates the length of a feature from its start until the closest spot to a point, and adds it as a new attribute. The point coordinates are taken from attributes in the original feature.
LineBuilder	Connects input point or line features in the order they enter, forming linear or polygonal features.
LineCloser	Turns input linear features into areas by adding their start point as the end point.
LineCombiner	Takes lines and connects them to form longer lines. Each connecting line must meet at the exact same start/end point, but otherwise they must not intersect.
LineExtender	Creates two-point extensions to linear features that extend the feature by a user-specified length.
LineOnAreaOverlayer	Performs a line-on-area overlay, either splitting lines where they intersect area boundaries or subdividing areas where split by lines. Attributes may be shared between related lines and areas (spatial join).

Name	Summary
LineOnLineOverlayer	Performs a line-on-line overlay in which all input lines are intersected against each other and resultant line features are created and output. Intersection points are turned into point features that can contain the merged list of attributes of the original intersected lines.
ListBasedFeatureMerger	Merges the attributes and/or geometry of one set of features onto another set of features, based on matching list attribute values with key attribute values and expressions.
ListBuilder	Combines attributes of the input features into a single list structure.
ListConcatenator	Concatenates all the values of a list into a single attribute.
ListCopier	Copies a complete attribute list, including all nested attributes, from one list name to another.
ListDuplicateRemover	Removes all duplicate values from a list attribute.
ListElementCounter	Stores the number of member elements found in the specified list into an attribute.
ListExploder	Explodes each list member on each input feature out into its own feature.
ListExpressionPopulator	Populates a new list from a series of attributes. The attributes to be used are specified by the expression parameter. Each attribute's index in the list is specified by the order of the attribute in the sorted result of the regular expression.
ListHistogrammer	Computes a histogram of the values found in a list, and returns these in a new list attribute on the feature.

Name	Summary
ListIndexer	Copies the attributes of the list element specified by the index to become main attributes of the feature.
ListPopulator	Populates a new list from a series of attributes.
ListRangeExtractor	Extracts the minimum and maximum values found in a list.
ListRenamer	Renames or promotes list names or components.
ListSearcher	Searches a list to find a value and returns the index of the value in the list.
ListSorter	Sorts the elements of the given list. The sorting can either be alphabetic or numeric, and in either ascending or descending order.
ListSummer	Computes the sum of all the elements of a list.
LocalCoordinateSystemSetter	Assigns a specified local coordinate system to features, without modifying geometry or coordinates.
Logger	Logs each feature to the translation log at the specified severity. All attributes and geometry of the feature will be output.
LogMessageStreamer	Captures messages from the FME logfile and/or the Logger transformer. The messages are loaded onto features created by the transformer.
MapboxStyler	Creates a common style for a group of features destined for the GeoJSON writer.
MapInfoStyler	Prepares features for output to MapInfo MIF/MID or MapInfo TAB by providing a convenient interface to set a variety of MapInfo format-specific attributes.

Name	Summary
MapnikRasterizer	Generates a raster from input vector and raster features, with fine control over symbolization and labeling, using the Mapnik toolkit.
Matcher	Detects features that are matches of each other. Features are declared to match when they have matching geometry, matching attribute values, or both. A list of attributes which must differ between the features may also be specified.
MeasureExtractor	Extracts the measures of geometries that match the given type, and places them in attributes or list attributes.
MeasureGenerator	Creates a set of measures attached to the geometry of the feature, where each value is the distance from the start of the line up to that vertex, multiplied by the given Multiplier.
MeasureRemover	Removes measures from a feature's geometry.
MeasureSetter	Sets measure(s) on a point, line, arc, area geometry or a vertex of a linear geometry to attribute value(s) of given attribute(s) or list attribute.
MeshMerger	Merges mesh features (features with IFMEMesh geometries) into a single output mesh.
MeshSimplifier	Reduces the number of triangles in a mesh.
MGRSToLatLongConverter	Converts Military Grid Reference System (MGRS) code to longitude and latitude coordinate values.
MinimumAreaForcer	Ensures that features with polygon geometry have an area that is equal to, or in excess of, the specified minimum area.

Name	Summary
MinimumSpanning CircleReplacer	Replaces the geometry of the feature with a polygon representing its minimum spanning circle. The minimum spanning circle is defined as the smallest circle that encloses all vertices of the passed-in feature.
ModuloCounter	Adds an attribute holding the next integer in a sequence, restarting the count at 0 whenever the sequence reaches the specified maximum value.
 MQTTConnector	Connects to an MQTT broker. Supports sending (producing) and receiving (consuming) messages.
MSWordStyler	Prepares features for output to the Microsoft Word Writer by providing a convenient interface to set a variety of Microsoft Word format-specific attributes.
MultipleGeometryFilter	Filters aggregate features based on the type of aggregate.
MultipleGeometrySetter	Provides the ability to set up an aggregate where each part is independent from the others, and its own complete geometry.
NeighborFinder	Finds the nearest Candidate feature(s) to each Base feature and merges their attributes onto the Base feature. May also be used in Candidates Only mode, where each feature is considered the Base in turn and compared to all other features, but not itself.
NeighborhoodAggregator	Creates aggregates of features based on their proximity to each other. Each aggregate that is created covers approximately the neighborhood width and height (measured in feature ground units).

Name	Summary
NeighborPairFinder	Finds the closest two Candidate features within some maximum distance of each Base feature and some minimum separation in heading between the Candidates and the Base.
NetworkCostCalculator	Computes and assigns the cost of the shortest path from a source object to each connected object as the Z-values or measure values of the input features.
NetworkFlowOrientor	Fixes the flow (direction) of each edge or linear feature in the network to fit the downstream direction to the destination node.
NetworkTopologyCalculator	Finds the connected lines that belong to the same network graph.
 NLPClassifier	Using a trained model, this transformer classifies natural language text into different categories. It can be used for filtering, sentiment analysis, and other tasks.
 NLPTrainer	Trains a natural language processing (NLP) classification model based on the user's specifications and the provided data.
NullAttributeMapper	Maps specified attributes on a feature to specified values. This transformer can map to and from null values, empty strings, and missing attributes.
NumericRasterizer	Creates a numeric raster representation of vector or point cloud input features, where cell values are taken from the z coordinates of the input features and overlaid on a uniform background.
OffsetCurveGenerator	Creates offset parallel lines on either side of curve features.

Name	Summary
Offsetter	Adds offsets to the feature's coordinates.
OneDriveConnector	Accesses the Microsoft OneDrive file storage service to upload, download, or delete files and folders or list the contents of a folder from a Microsoft OneDrive account.
NEW OpenAPICaller	Accesses an API endpoint defined by an OpenAPI specification via HTTP or HTTPS.
OrientationExtractor	Returns a feature's orientation.
Orientor	Adjusts the orientation of a polygonal feature, a surface, or the direction of a linear feature.
ParameterFetcher	Adds an attribute to the feature, supplying it the value of a previously published parameter.
PathBuilder	Connects input linear (arcs and lines) features in the order they enter, forming path features.
PathSplitter	Decomposes a path feature into its component segments.
PDFPageFormatter	Prepares features for output to PDF by providing a convenient interface to set the scale and location of features on a page.
PDFStyler	Sets the common PDF style attributes for a group of features destined for the GeoSpatial PDF Writer.
PipeEvaluator	Replaces pipe geometries on the feature with an approximated boundary representation solid.
PipeReplacer	Replaces the geometry of the feature with a three-dimensional pipe created by sweeping a stroked disk along the input curve.

Name	Summary
PlanarityFilter	Filters features based on their planarity. To be planar, a geometry must have all its points situated in the same plane.
Player	Retrieves features stored in an FME Feature Store (FFS) file and outputs them into the workspace.
PointCloudCombiner	Combines features into a single point cloud. Point cloud and non-point cloud geometries are supported.
PointCloud ComponentAdder	Adds new components with constant values to a point cloud.
PointCloud ComponentCopier	Copies selected component values onto either a new or existing component.
PointCloud ComponentKeeper	Keeps only specified point cloud components, discarding all others.
PointCloud ComponentRemover	Removes specified components from a point cloud.
PointCloud ComponentRenamer	Renames an existing component.
PointCloud ComponentTypeCoercer	Alters the data type of point cloud components, and converts component values if required.
PointCloudConsumer	Reads point cloud features for testing purposes, including any accumulated point cloud operations. No additional operations are performed, and nothing is done with the features.
PointCloudCreator	Creates a point cloud of specified size and density, with default component values.

Name	Summary
PointCloud ExpressionEvaluator	Evaluates expressions on each point in a point cloud feature, including algebraic operations and conditional statements, and sets individual point cloud component values.
PointCloudExtractor	Serializes the geometry of a point cloud feature into a Blob attribute, encoding the contents according to a choice of common binary point cloud formats.
PointCloudFilter	Separates point clouds into multiple features, based on evaluating expressions including component values, and creates a separate output port for each expression defined.
PointCloudMerger	Merges point clouds by joining points where selected component values match (join key), including x, y, z, and other components. Component values are transferred between point clouds and output is filtered based on matching success and duplication.
PointCloudOnRaster ComponentSetter	Sets point cloud component values by overlaying a point cloud on a raster. The component values for each point are interpolated from band values at the point location.
PointCloudPropertyExtractor	Extracts the geometry properties of a point cloud feature and exposes them as attributes, optionally checking for their existence, retrieving component properties, and finding minimum and maximum values. Extents may also be recalculated and updated.
PointCloudReplacer	Decodes a binary attribute containing encoded point clouds stored as Blobs, replacing the feature's geometry with the decoded point cloud.

Name	Summary
PointCloudSimplifier	Reduces the number of points in a point cloud by selectively keeping points based on the shape of the point cloud. The simplified and removed points are output as two discrete point clouds.
PointCloudSorter	Sorts the points within a point cloud by one or more component values.
PointCloudSplitter	Separates point clouds into multiple features based on component values, color, or first/last return.
PointCloud StatisticsCalculator	Calculates statistics on point cloud components and adds the results as attributes.
PointCloudSurfaceBuilder	Takes an input point cloud and reconstructs it into an output mesh.
PointCloudThinner	Reduces the number of points in (thins) a point cloud by keeping points at a fixed interval, a maximum number of points, or a set quantity of first or last points. Remaining points are discarded.
PointCloudToPointCoercer	Converts point clouds to point or multipoint geometries, optionally retaining attribute and component values.
PointCloud TransformationApplier	Applies a point cloud's scale, offset, or transformation matrix to it, recalculating component values and removing the transformation values.
PointOnAreaOverlayer	Performs a Point in Polygon overlay. Points may receive containing area attributes, and areas may receive contained point attributes (spatial join).

Name	Summary
PointOnLineOverlayer	Performs a point-on-line overlay. Each input line is split at its closest place to any point within the specified point tolerance, and attributes may be shared between related points and lines (spatial join).
PointOnPointOverlayer	Performs an overlay of points on points. Each point may receive attributes from any point within a specified distance (tolerance), performing a spatial join. Geometry is not altered.
PointOnRasterValueExtractor	Extracts the band and palette values from a raster at the location of one or more input points and sets them as attributes on the point feature.
PointPropertyExtractor	Extracts point orientation to feature attributes.
PointPropertySetter	Adds or removes point orientation.
PowerPointStyler	Prepares features for output to the Microsoft PowerPoint Writer by providing a convenient interface to set a variety of Microsoft PowerPoint format-specific attributes.
PROJAttributeReprojector	Reprojects coordinates stored as attributes from one coordinate system to another using the PROJ library.
ProjectWiseWSGConnector	Accesses the Bentley ProjectWise service to upload, download, or delete files and folders or list the contents of a folder from a ProjectWise account.
PROJReprojector	Reprojects feature coordinates from one coordinate system to another using the PROJ library.
PythonCaller	Executes a user-supplied Python script to manipulate features.

Name	Summary
PythonCreator	Creates features with a user-supplied Python script.
RabbitMQConnector	Connects to an AMQP 0-9-1 broker. Supports sending (producing) and receiving (consuming) messages.
RandomNumberGenerator	Generates a uniformly distributed random number.
RasterAspectCalculator	Calculates the aspect (direction of slope) for each cell of a raster. Aspect is measured in degrees from 0 to 360, clockwise from north.
RasterBandAdder	Adds a new band to a raster feature.
RasterBandCombiner	Merges coincidental raster features into a single output raster feature, preserving and appending all bands.
RasterBand InterpretationCoercer	Alters the interpretation type of individual raster bands, converting cell values if necessary.
RasterBandKeeper	Removes all unselected bands from a raster feature.
RasterBandMinMaxExtractor	Extracts the minimum and maximum band values, palette keys, and palette values from a raster feature, and adds them to a list attribute.
RasterBandNameSetter	Sets the band name of selected bands on a raster, making raster contents simpler to understand compared to band numbers.
RasterBand NodataRemover	Removes the existing Nodata identifier from selected bands of a raster feature. Any values previously equal to the Nodata value are considered valid data.
RasterBandNodataSetter	Sets a new Nodata value on selected bands of a raster feature.

Name	Summary
RasterBandOrderer	Specifies the required order of bands in a raster. Bands are reordered according to the input band indices.
RasterBand PropertyExtractor	Extracts the band and palette properties of a raster feature and adds them to a list attribute..
RasterBandRemover	Removes any selected bands from a raster feature.
RasterBandSeparator	Separates bands or unique band and palette combinations, and outputs either individual raster features or a single new raster feature containing all combinations.
RasterCellCoercer	Creates individual points or polygons for each cell in a raster, optionally extracting band values as z coordinates or attributes.
RasterCellOriginSetter	Sets the cell origin point within cells in a raster.
RasterCellValueCalculator	Evaluates basic arithmetic , minimum, maximum or average operations on the cell values of a pair of rasters.
RasterCellValueReplacer	Replaces ranges of band values in a raster with single values.
RasterCellValueRounder	Rounds off raster cell values.
RasterCheckpointer	Forces accumulated raster operations to be processed, saving the state to disk and releasing resources to tune performance or assist with memory limitations.
RasterConsumer	Reads raster features for testing purposes, including any accumulated raster operations. No additional operations are performed, and nothing is done with the features.

Name	Summary
RasterConvolver	Applies a convolution filter (sometimes called a kernel or lens) to raster features and outputs the results.
RasterDEMGenerator	Produces a raster digital elevation model (DEM) by uniformly sampling a Delaunay triangulation generated from input points and breaklines.
RasterDiffuser	Enhances the features of a raster image. The RasterDiffuser enhances the borders, lines, and curves while reducing noise in the flat areas of the raster image.
RasterExpressionEvaluator	Evaluates expressions on each cell in a raster or pair of rasters, including algebraic operations and conditional statements.
RasterExtentsCoercer	Replaces the geometry of input raster features with a polygon covering either the extents of a raster or the extent of data within a raster.
RasterExtractor	Serializes the geometry of a raster feature into a Blob attribute, encoding the contents according to a choice of common binary raster formats.
RasterGCPExtractor	Extracts Ground Control Point (GCP) coordinate system and point values from a raster feature and exposes them as attributes.
RasterGCPSetter	Sets Ground Control Points (GCPs) on a raster, pairing cell positions with known coordinates.
RasterGeoreferencer	Georeferences a raster by either known corner coordinates or origin, cell size, and rotation.
RasterHillshader	Generates a grayscale shaded relief representation of terrain, based on elevation values.

Name	Summary
RasterInterpretationCoercer	Alters the interpretation type of rasters, including all bands, and converts cell values if necessary.
RasterMosaicker	Merges multiple raster features into a single raster feature.
RasterNumericCreator	Creates a numeric raster of specified size and resolution, with default cell values.
RasterObjectDetectionModelTrainer	Trains a custom raster object detection model based on the positive and negative samples.
RasterObjectDetector	Accepts a raster input and outputs rectangular geometries outlining the detected object(s).
RasterObjectDetectorSampleGenerator	Aids in generation and preparation of positive and negative samples to be used by the RasterObjectDetectionModelTrainer.
RasterObjectDetectorSamplePreparer	Aids in preparation of positive and negative samples provided by the user to be used by the RasterObjectDetectionModelTrainer.
RasterPaletteAdder	Creates a palette from an attribute, and adds this palette to all selected bands on a raster.
RasterPaletteExtractor	Creates a string representation of an existing palette on a raster and saves it to an attribute.
RasterPaletteGenerator	Generates a palette from the selected band(s) of a raster. The output raster will have the selected band(s) replaced by a new band with a palette.
RasterPaletteInterpretationCoercer	Alters the interpretation type of raster palettes.

Name	Summary
RasterPalette NodataSetter	Identifies the palette key that matches a raster band's Nodata value, and sets a value on it.
RasterPaletteRemover	Removes selected palette(s) from raster features.
RasterPaletteResolver	Resolves the palette(s) on a raster by replacing cell values with their corresponding palette values. Palette values with multiple components, such as RGB, are broken down and the individual values assigned to multiple, newly-added bands.
RasterPropertyExtractor	Extracts the geometry properties of a raster feature and exposes them as attributes.
RasterPyramider	Resamples rasters to multiple resolutions, based on either number of levels or dimensions of the smallest output raster.
RasterRegisterer	Transforms an image to minimize its difference with another.
RasterReplacer	Decodes a binary attribute containing encoded rasters stored as Blobs, replacing the feature's geometry with the decoded raster.
RasterResampler	Resamples rasters, based on specified output dimensions, cell size in ground units, or percentage of original, by interpolating new cell values.
RasterRGBCreator	Creates a color raster feature of specified size, resolution, and interpretation type, with default cell values.

Name	Summary
RasterRotationApplier	Rotates a raster feature according to its rotation angle property, interpolating new cell values, updating all other affected raster properties, and producing an output raster feature with a rotation angle of zero.
RasterSegmenter	Partitions a raster image into arbitrarily sized groups of cells from the input image based on intensity differences in the input raster image cells.
RasterSelector	Selects specific bands and palettes of a raster for subsequent transformer operations.
RasterSingular CellValueCalculator	Performs basic arithmetic operations on the cell values of a raster against a numeric value.
RasterSlopeCalculator	Calculates the slope (maximum rate of change in z) for each cell of a raster.
RasterStatisticsCalculator	Calculates statistics on raster bands and adds the results as attributes.
RasterSubsetter	Clips raster features using pixel bounds instead of ground coordinates, and optionally adds cells around the perimeter.
RasterTiler	Splits each input raster into a series of tiles by specifying either a tile size in cells/pixels or the number of tiles.
RasterToPolygonCoercer	Creates polygons from input raster features. One polygon is output for each contiguous area of cells with the same value in all bands.
RCaller	Executes an R script that has the ability to access feature data from a temporary R data frame.

Name	Summary
Recorder	Saves a copy of all the features that enter to a disk file. This disk file can later be "played back" in the subsequent workspace by using the Player, or viewed using the FME Data Inspector.
ReframeReprojector	Reprojects feature coordinates from one coordinate system to another in Switzerland, using the Reframe library from the Federal Office of Topography (swisstopo).
 RekognitionConnector	Accesses the Amazon Rekognition Service AI computer vision service to detect objects, faces, and text in images and to describe image contents and faces.
ReprojectAngleCalculator	Converts a given angle from one coordinate system to another.
ReprojectLengthCalculator	Converts a given length from one coordinate system to another.
Reprojector	Reprojects feature x and y coordinates from one coordinate system to another.
NEW RevitStyler	Prepares features for output to Autodesk Revit by providing a convenient interface to set a variety of Autodesk Revit format-specific attributes.
Rotator	Rotates features in a counterclockwise direction about the specified point by the Rotation Angle parameter (measured in degrees).
RubberSheeter	Variably adjusts vector feature coordinates based on their proximity to control vectors indicating current and desired positions.

Name	Summary
S3Connector	Accesses the Amazon Simple Storage Service (S3) file storage service to upload, download, or delete files and folders or list file/folder information from an S3 account.
SalesforceConnector	Retrieves data from the Salesforce customer relationship platform using Salesforce Object Query Language (SOQL) queries.
Sampler	Preserves either a total number of features or a sampling of features, depending on the Sampling Type selection. The remainder of the input features are output through the NotSampled port.
Scaler	Scales x, y, and/or z coordinate values to resize geometry.
SchemaMapper	Converts the existing schema (data model) of features to a new structure, based on mappings defined in an external lookup table.
SchemaScanner	Produces a schema feature representing the feature type definition for each group of input data features.
SecondOrderConformer	Performs a second-order conformal transformation on the feature's geometry. Depending on the input geometry, a 2D or 3D transformation is performed.
SectorGenerator	Outputs circular sectors of influence for point features that have directions defined by azimuths (degrees clockwise from North).
SharedItemAdder	Adds or replaces Appearances, Textures, Rasters, or Geometry Definitions in the internal FMELibrary.

Name	Summary
SharedItemIDExtractor	Extracts Shared Item IDs from the front and/or back side of geometries and adds them as traits or a list attribute.
SharedItemIDSetter	Sets Shared Object IDs onto the front and/or back sides of geometries.
SharedItemRetriever	Retrieves Appearances, Textures, Rasters, or Geometry Definitions from the internal FMELibrary.
SharePointOnlineConnector	Accesses SharePoint Online to upload, download, or delete files and folders or list file/folder information.
SherbendGeneralizer	Uses the Sherbend algorithm to simplify lines by reducing unnecessary details based on the analysis of the line's bends.
ShortestPathFinder	Computes the shortest path of a line or lines containing a source and destination node in a network based on the length of the input or the cost (specified in an attribute) of each of the edges.
SlackConnector	Posts a message or uploads a file to the Slack group chat service.
Snapper	Brings lines, segments, end points or vertex points of features together if they are within a certain distance of each other and (optionally) if they have one or more attributes in common.
Snipper	Shortens the geometry of a line feature from the ends by snipping specified distances, indices, or measure values. It operates on features with simple line geometry and polygons without holes.

Name	Summary
SNSSender	Using the Amazon Simple Notification Service (SNS), sends messages to an Amazon SNS topic.
SolidBuilder	Constructs solids from surfaces and cuts hollow regions, or voids, in solid features with other solid features. A solid that is cut by another solid must contain that second solid.
SolidDissolver	Dissolves solid features by removing common boundaries to create larger solids. Input attributes may be accumulated.
Sorter	Sorts features by a selected attribute's value. The features leave the transformer in the order specified, and are output through the Sorted port.
SpatialFilter	Filters point, line, area, and text features based on spatial relationships.
SpatialRelator	Determines what type of spatial (topological) relationships exist between sets of point, line, area, and text features. Tags - but does not alter the geometry of - features when selected relationships exist, and performs a spatial join to optionally copy attributes between features.
SpatialSorter	Sorts features geographically (by location).
SpikeRemover	Cleans up feature geometries by removing spikes.
SQLCreator	Generates FME features and/or schemas from the results of a SQL query executed against a database. One FME feature is created for each row of the results of the SQL query.

Name	Summary
SQLExecutor	Executes SQL queries against a database once for each initiating feature that enters the transformer. Schema, the initiating features, and the results of the query may be output.
 SQSConnector	Accesses the Amazon Simple Queue service to send or receive messages.
StatisticsCalculator	Calculates statistics based on a designated attribute or set of attributes of the incoming features and adds the results as attributes.
StreamOrderCalculator	Computes the Strahler order and/or Horton order of streams in a river network.
StreamPriorityCalculator	Calculates the primary and secondary streams of multiple stream networks. The key to determining the priority is the shortest path algorithm using multiple iterations within a network graph.
StringCaseChanger	Changes the case of text attributes to UPPERCASE, lowercase, Title case, or Full Title Case.
StringConcatenator	Concatenates the values of any number of attributes, user parameters and/or constants, and stores the result in a new attribute.
StringFormatter	Reformats the data held in each specified attribute.
StringLengthCalculator	Calculates the length of strings and the number of bytes in a blob.
StringPadder	Pads the selected attributes with a specified character, either on the right or left side.

Name	Summary
StringPairReplacer	Replaces characters in the value contained in the source attribute based on replacement key-value pairs.
StringReplacer	Replaces substrings matching a string or regular expression in the string contained in the source attribute.
StringSearcher	Performs a regular expression match on the specified expression.
SubstringExtractor	Extracts a substring from the source attribute. The substring is taken from the range of characters specified.
SummaryReporter	Writes a summary report of features that enter to a disk file. Features are sorted prior to being summarized.
SurfaceBuilder	Cuts holes in surface features with other surface features. A surface that is cut by another surface must be co-planar with that second surface, and contain that second surface.
SurfaceDissolver	Detects coplanar regions of input surfaces and dissolves them into single faces. The output faces retain the attributes, traits, and appearances of the input.
SurfaceDraper	Constructs a Delaunay triangulation based on input points and breaklines. Input drape features will be overlaid onto the surface model, and output as draped features.
SurfaceFootprintReplacer	Replaces the geometry of a feature with a planar representation of the feature's shadow.

Name	Summary
SurfaceModeller	Constructs a Delaunay triangulation based on input points and breaklines.
SurfaceOnSurfaceOverlayer	Performs a surface-on-surface overlay so that all input surfaces are intersected against each other and resultant surface features are created and output. The output surfaces can retain all the attributes of the input features in which they are contained.
SurfaceSplitter	Splits a double-sided input surface geometry into two single-sided surfaces – one equal to the front side of the input surface and one equal to the back side of the input surface.
SystemCaller	Runs a program or operating system command, and waits for it to exit before continuing the translation.
TclCaller	Runs a Tool Command Language (Tcl) command and assigns its return value to an attribute.
TCPIPReceiver	Receives raw data over TCP/IP. Produces a feature each time a specified number of bytes is received or a particular sequence is detected.
TCPIPSender	Sends raw data to the specified host, which may be another FME workspace running in a different process, (located on the same machine or on a different machine), or any client application that communicates over TCP/IP.

Name	Summary
TempPathnameCreator	Reserves and returns a temporary file or folder path that will be deleted upon translation completion. An optional basename and extension can be supplied to further refine the filename portion of the resulting pathname.
Terminator	Stops a translation when it detects detect non-valid situations or input data conditions that should not exist.
Tester	Evaluates one or more tests on a feature, and routes the feature according to the outcome of the test(s).
TestFilter	Filters features by test conditions to one or more output ports.
TextAdder	Sets the feature's geometry to text using the previous geometry as the text location.
TextDecoder	Decodes a string from a number of different text encodings into plain text.
TextEncoder	Encodes a text string using URL, Unicode, XML, HTML, Base64, HEX, or Octal methods.
TextLocationExtractor	Sets a text feature's geometry to be only the point location of the input.
TextPropertyExtractor	Extracts the values of text attributes from input text geometry features.
TextPropertySetter	Sets the properties of a text geometry to the specified properties. All parameters are optional; if a value is unspecified, it will be left unmodified on the geometry.

Name	Summary
TextStroker	Takes as input a font name, text padding and width multiplier, and outputs aggregates that describe the outline of the text.
TextureCoordinateSetter	Assigns texture coordinates to surfaces.
Tiler	Chops all input features into a series of tiles, covering the extent of all features.
TimeWindower	Adds a time window attribute to each feature, assigning a Window ID based on either the time the feature arrives at the transformer or a timestamp stored as an attribute.
TINGenerator	Constructs a Delaunay triangulation based on input points and breaklines. The surface model may be output in a number of representations: a triangulated irregular network (TIN), TIN vertices, TIN edges, and triangles.
TopferIndexCalculator	Takes a set of point, linear, polygonal, and/or aggregate features, and calculates the Topfer Index based on user-provided source and destination scales.
TopologyBuilder	Computes topology on input point, line, and/or area features, and outputs significant nodes, edges, and faces with attributes describing topological relationships.
TraitMerger	Moves the traits from one geometry onto another geometry. It can also move the attributes from a feature onto a geometry as traits, or the traits from a geometry onto a feature as attributes.

Name	Summary
TransporterReceiver	Receives features from another FME workspace running in a different process, which may be located on the same or a different machine.
TransporterSender	Sends features to another FME workspace running in a different process, which may be located on the same machine or on a different machine.
 TrelloConnector	Accesses the Trello web service to create, update, archive, or list the contents of Trello Boards, Lists, and Cards.
Triangulator	Breaks an input geometry into triangular units or a mesh.
 TrimbleConnectConnector	Accesses the Trimble Connect platform to upload, download, list, or delete data from a Trimble Connect account.
Tweeter	Sends a Twitter™ status update.
TweetSearcher	Runs a search for Twitter™ entries that contain the given query.
TweetStreamer	Connects to a Twitter™ stream and outputs a new feature for each tweet. The transformer allows users to set up a filter, so that the output features will only contain tweets containing certain keywords, tweets that are geotagged with a particular location, and/or tweets which are written in particular languages.
TwitterStatusFetcher	Retrieves the timeline for a particular Twitter™ user or list.

Name	Summary
UniqueIdentifierGenerator	Calculates a UUID (Universally Unique IDentifier) or ULID (Universally Unique Lexicographically Sortable Identifier) for each incoming feature, and adds it as an attribute.
VariableRetriever	Reads the specified variable and puts its value into the specified attribute.
VariableSetter	Creates and sets the specified variable to the specified value.
VectorOnRasterOverlayer	Rasterizes vector or point cloud features onto an existing raster. For vector features the fme_color attribute sets pixel color, and point clouds may be rendered using their color or intensity components.
VertexCounter	Extracts a feature's total number of vertices, storing the result in an attribute.
VertexCreator	Appends coordinates to null, point, text, line, and arc geometry, or replaces existing geometry with point geometry.
NEW VertexNormalGenerator	Calculates facet or averaged normals for each vertex of a feature's geometry.
VertexNormalRemover	Removes all vertex normals from a feature's geometry.
VertexRemover	Removes specific vertices from a feature's geometry.
VolumeCalculator	Calculates the volume of a solid object and stores the value in an attribute. The volume is calculated in cube map units, whatever they are.

Name	Summary
VoronoiCellGenerator	Outputs circular sectors of influence for point features that have directions defined by azimuths (degrees clockwise from North).
VoronoiDiagrammer	Generates a Voronoi diagram or Thiessen polygon.
WebMapTiler	Creates series of raster tiles for use in web mapping applications such as Bing™ Maps, Google Maps™, or Web Map Tile Service. Tiles are produced at varying zoom levels, size, and resolution.
NEW WebSocketConnector	Connects to a WebSocket server to send or receive messages.
WhiteStarLeaseBuilder	Posts a query to a WhiteStar Legal2Map™ WebServices (WS3) server to obtain points or polygons matching a list of legal land descriptions.
WorkspaceRunner	Runs an additional FME Workbench workspace on the local computer by spawning a new FME process.
XMLAppender	Assembles several XML documents into one.
XMLFeatureMapper	Constructs features from XML documents via xfMaps.
XMLFlattener	Flattens content of XML element(s) into feature attributes.
XMLFormatter	Provides various options for formatting and cleaning up XML documents.
XMLFragmenter	Maps elements from an XML document into XML fragments, and optionally flattens the content of the XML elements and the children further as feature attributes.

Name	Summary
XMLNamespaceDeclarer	Declares missing namespaces in XML documents by matching prefixes from another sample XML file whose namespaces are fully declared.
XMLSampleGenerator	This transformer generates an XML document based on an XML Schema (XSD) file.
XMLTemplater	Populates an XML document with FME feature attribute values. The document is provided as a template, and the transformer will use XQuery to insert attribute values and geometry information into the template.
XMLUpdater	This transformer modifies XML documents.
XMLValidator	Validates the syntax or schema of an XML file or text.
XMLXQueryExploder	Uses XQuery expression to extract portions of XML text into new FME features.
XMLXQueryExtractor	Uses XQuery expressions to extract portions of XML text into feature attributes.
XMLXQueryUpdater	Provides updates to an XML document using XQuery Update expressions.
XSLTProcessor	The XSLTProcessor uses an XSL (eXtensible Stylesheet Language) stylesheet to convert an XML document.
 YAMLtoJSONConverter	Converts YAML to JSON.