Custom Formats

Technology Brief

Key Facts

Capabilities: Create custom data transformations that are automatically applied to source data as it is read

Benefits: Save time when performing routine data transformations

---

FME's Custom Format feature provides functionality that enables users to effectively define new formats that consist of existing FME formats and transformation operations.

Custom Formats are often used to combine data from multiple sources, or to create a new view of frequently-used source data by remodeling the dataset. Since the transformation is applied as the data is read, the original source data remains unmodified, and no copying, translation, or subsequent storage of source data is performed.

The required data transformation workflow for a specific source dataset(s) is created once in FME's Workbench application, then saved as a Custom Format. The transformation workflow (Custom Format) can then be selected from the FME Formats Gallery or data import menu and used just as any other FME format.

A Custom Format can also be described as a virtual format, a user-defined format, a view, or a skin.

Key Benefits

- Creating a Custom Format allows you to streamline your work process when the same source datasets are used consistently, and when the same processing is consistently performed to remodel the source data into the structure required by the destination system or end user.
- Creating a Custom Format allows you to resolve schema mismatches between different datasets by defining a remapping for each dataset into a consistent schema. A user, for example, may obtain road data from several sources, each with a different schema. Using FME's Custom Format capability they are able to resolve the schema differences and present a consistent schema to users.
- A Custom Format provides a convenient way to package and deliver data to an end user who simply needs to view the data, without understanding how the data has been processed.
- Users of FME-supported applications can take advantage of FME's Custom Format feature to automatically apply the full transformation power of FME's Workbench application to source data as it is read into the destination application.

Applications able to leverage the power of Custom Formats include:

- Any FME Objects Application
- FME's Universal Viewer
- Autodesk Map 3D
- Autodesk MapGuide
- ESRI ArcGIS
- ESRI ArcGIS Data Interoperability
- ESRI ArcIMS
- IBM Websphere Datastage
- Intergraph GeoMedia GDO
- Informatica PowerCenter
- Microsoft MapPoint
- Microsoft SQL Server Integration Services (SSIS)

Example Applications

JOINING FEATURES TO ATTRIBUTES

An FME Custom Format allows geometry features and attributes stored in different systems to be joined on-the-fly for direct read into an FME-supported application such as Autodesk Map 3D or ArcGIS.

"PACKAGING" DATA CONVERSIONS FOR END-USERS

Complex transformations required to convert non-spatial formats into geometric features can be designed and delivered to an end user as a Custom Format. The transformation process is transparent to the end user; they use their Custom Format in same way as any other standard source format. This is referred to as "spatializing data."

Safe Software's *Professional Services* team routinely develops Custom Formats for clients who work with complex formats such as SEG-P1, Z-MAP, and FRAMME.

MULTIPLE USERS REQUIRING CUSTOM VIEWS OF THE SAME SOURCE DATASET

Custom Formats streamline workflows in enterprise environments where different user groups must routinely run a specific data transformation to retrieve their own unique "view" of a shared source dataset. For example, in a scenario where a municipality maintains an Oracle Spatial database containing the city's entire land use and infrastructure data, the Highways Department can use their unique, predefined source data transformation (or Custom Format) to automatically read only road features into an FME-supported mapping application. The Custom Format may also be designed to automatically change feature symbology, such as the line colors representing highways and major roads, as the data is read into the destination application.

VIEWING GPS DATA DIRECTLY IN AN APPLICATION

GPS data can be viewed directly in an FME-supported application by importing the data as a previously-defined Custom Format. The Custom Format would typically be designed to automatically convert the coordinate attributes into spatial point features, connect point features to form lines or polygons, and perhaps also join the data to an external attribute database. (For an example, see the Magellan Track File Custom Format below.)

FME's Custom Format Feature in Action

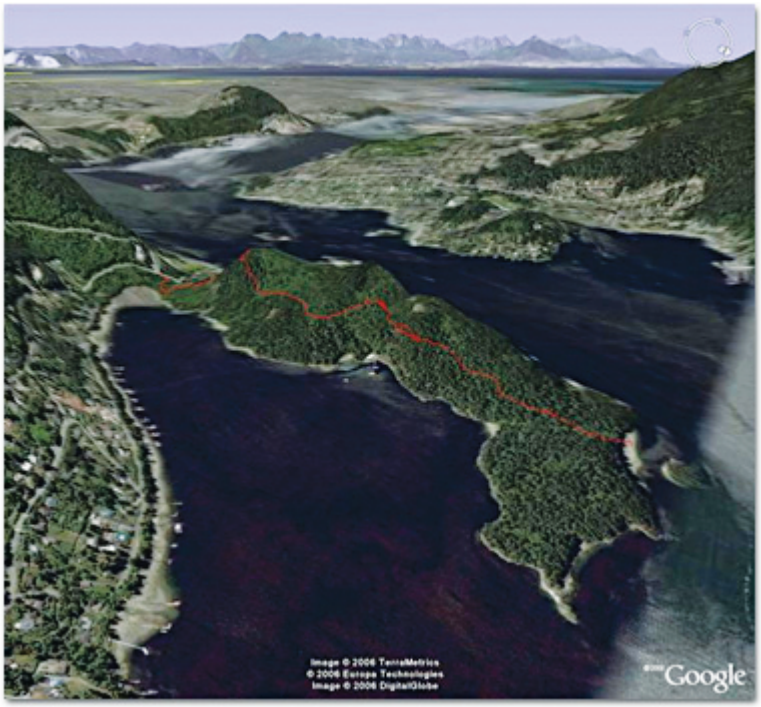
- Download a *free 14-day evaluation* of FME and create your own FME Custom Formats. (For Information on creating a Custom Format, see the Help file in FME's Workbench's application.)
- View Custom Formats provided by other FME users at *www.fmepedia.com*.

Custom Format Example: Magellan Track File

The Magellan Track File Custom Format is one of several Custom Formats available from *www.fmepedia.com*, an online "FME encyclopedia" provided by Safe Software and the FME user community.

This Custom Format converts point value data collected by Magellan GPS units or created with MapSend software into a structure that can be read directly by FME Workbench or FME's Universal Viewer. Two types of geometries are created from the data: points (Magellan's waypoints) and a line connecting the points, which shows the path traveled by the data collector.

Once the complex data flow required to transform the Magellan Track File source dataset has been created and saved as a custom Format, it does not need to be created again for source datasets in the same format. The workflow can also remain invisible to another end user.



For More Information

For more information, visit *www.safe.com.*

SAFE SOFTWARE