

## **GIS Day Open House at Safe Software is Full of Surprises**

GIS Day is an eagerly anticipated event at Safe Software. For the past five years, we have celebrated GIS Day by hosting an open house here in our offices in Surrey, which is part of the greater Vancouver area of British Columbia. Our open house is an ideal opportunity to build awareness of the importance of GIS in making informed decisions about our world, and to show how Safe's spatial ETL platform, FME, plays a vital role in ensuring GIS professionals have the data they need, in the format and data structure they need, for the application they want to use.

Over thirty guests attended the event this year, and attendees included clients who use FME, as well as students, and friends and family of Safe staff. After a buffet breakfast, guests settled down to watch a formal presentation by Safe's cofounders, Don Murray and Dale Lutz. But attendees were in for a few surprises! In the midst of what appeared to be a traditional presentation, Don and Dale were interrupted by three simulated "emergencies." Designed to both entertain and inform, each emergency took a humorous approach, and each required FME to be fired up "on the spot" to help plan an appropriate response by integrating data from a number of different sources.

The first interruption occurred early in the presentation. In the midst of his description of the various data sources supported by FME – including vector, raster, spatial databases, web services, non-spatial corporate data, and soon, 3D data – Don received an unexpected phone call bringing grave news. But Safe's guests were amused, rather than aghast, to learn that a 40 m wave was heading for the Vancouver coastline. The caller, a senior official with the Canadian government, explained that the wave had been generated by an offshore earthquake, and was expected to reach Vancouver by late afternoon. Could Safe Software help determine the extent of flooding in downtown Vancouver? Strangely unflustered by their imminent danger, Don and Dale immediately set to work, using FME to pull in GML data to create a baseline map of Vancouver, and then generate datasets for visualization in Google Earth. The result was a 3D representation of Vancouver, showing floodwaters rising over time. Zooming in to the downtown core clearly showed that this would not be a good night to catch a ball game in GM place, since most of the downtown area would be underwater by the evening. The government official considered the information carefully and finally concluded that he would never-the-less buy his political nemesis two tickets to the game and send him to Vancouver via private jet.

Unperturbed by the interruption, Don and Dale picked up their presentation right where they had left off. Focusing on FME's support for raster data, Dale described a recent project based in Switzerland wherein FME was used to overlay airplane flight paths on digital elevation models of the underlying terrain. Dale had just finished explaining that this information would be used to minimize noise impact on the surrounding community, when the presentation was interrupted once again. A harried-looking member of a city work crew apologized for his intrusion, explaining that he needed urgent assistance. His crew had been digging a ditch along the road in front of Safe's offices, and had unexpectedly encountered a water pipeline. Nervous to proceed, the crew member asked

if Don and Dale could quickly construct a map of the underground utilities in the work area. As luck would have it, Don and Dale just happened to have a few relevant datasets on hand! Using FME, Don and Dale were able to import raster imagery of the project area, and overlay vector data from various sources to create a map showing zones where the proposed ditch would intersect water and sewer pipelines. After expressing his thanks, the city worker departed, now confident about the location of the utility networks in his project area.

Don and Dale remarked that the city crewman bore a striking resemblance to a member of Safe's staff, then returned to their presentation. But not for long! After only a few minutes, Mark Ireland, Safe's FME training coordinator, ran onstage. Mark reported that a mysterious power surge had knocked out all the computers in Safe's training lab. With the next training course scheduled for early tomorrow, some of the course participants would be leaving for the airport any minute. Mark needed to find out which attendees live the furthest away, so he could contact them first. Using the address list provided by Mark, Don and Dale were able to use FME to quickly retrieve lat/long coordinates for each address using the Yahoo!® geocoding service, then generate a map in Google Earth™. The map included moving airplane icons that clearly showed departure points, and which attendee had the furthest distance to travel.

Mark left to begin making his phone calls, and Don and Dale were able to finish their presentation without further incident. For the audience however, the excitement continued with the awarding of a number of door prizes, followed by several brief presentations by various members of Safe staff. Termed "Lightning Talks," the presentations gave a brief overview of a variety of different projects recently accomplished with FME. Project topics included linear referencing, TRIM update mapping, as well as mosaic, reprojection and clipping satellite imagery with FME. The final presentation, which focused on global warming, included a time lapse KML "movie" generated by FME and displayed in Google Earth, showing global temperature changes over the past 300 years.

At 11 am, with the conclusion of the formal presentations, guests were invited to visit five demonstration stations, and many lingered long after the anticipated mid-day wrap-up time. A brief outline of each demonstration station is included below:

### **1. FME Server**

In this demonstration, guests were treated to a preview of the upcoming FME Server. The server was used to access a live GeoRSS feed of earthquake data and serve this data out to Google Earth.

### **2. Solids and Surfaces: Processing 3D Geometries**

In a second demonstration focusing on new capability upcoming in FME 2008, guests learned about FME 2008's ability to process 3D geometries. Guests observed 2D CAD drawings of Safe's offices transformed into a 3D

view, as well as the translation of 3D objects from one format to another, without the loss of attributes.

### **3. Global Warming Demo using Raster Imagery**

This continuation of the earlier presentation allowed guests to get “under the hood” of FME and learn how FME was used to create a KML "movie" for Google Earth showing global temperature changes over the past 300 years.

### **4. FME and Microsoft SQL Server 2008**

Guests viewing this demonstration learned that FME can be used to load spatial data into Microsoft SQL Server 2008, visualize that data, and extract it in any of dozens of supported formats. The demo also showed how FME enables GIS applications to dynamically query and incorporate spatial data from SQL Server 2008.

### **5. Loading Data into SDE**

At this demonstration station, guests learned about FME’s ArcSDEQuerier functionality, and FME’s capability to load data into ArcSDE.