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■ AUTUMN 2010

*Founders' Perspective*

## FMEtamorphosis: Transformation is the Key

Welcome to the newly renamed FME Insider! This year at Safe, we decided it was time to tackle an ambitious challenge – how to more clearly communicate what FME® is, why it's unique, and how it's adding value to our customers' projects.

So, what did we learn? What is the real secret behind FME? Transformation – it truly is the key strength of FME that helps people more easily master their toughest data interoperability challenges. And that's why we chose "transformation" as the theme for this issue.

"FME is transforming projects, people, and processes."

Inside, you'll read how FME has transformed projects, people and processes at several organizations. For example, you'll learn how FME Server helps put critical, real-time spatial data into the hands of analysts at Liaoning Mobile Communications in China. You'll also see how Neftex is using FME to deliver 600 million years worth of spatial data over the web. Of course, no Autumn Insider is complete without a sneak peek at our upcoming release, FME 2011. In this issue, you'll read about our exciting plans for this new version.

In the spirit of transformation, we're also evolving how and where FME users can learn and interact with us in the future. See

page 7 to read about our new instructor-led online training courses and our exciting change of plans for the next FME International User Conference.

As always, we love hearing from you. Please continue to share your stories about FME's role in your business. Who knows? Maybe we'll get a chance to feature your project in an upcoming issue. All the best for the rest of 2010!



Follow Don on Twitter @ DonAtSafe



Follow Dale on Twitter @ DaleAtSafe



We ran our founders through the ImageRasterizer with Interpretation Type set to "Warhol"...

## Introducing: The OpenStreetMap Writer

Love it or hate it, crowdsourcing appears to be here to stay. Whether we're voting for our favorite tee-shirt designs or contributing to Wikipedia®, the power of the masses to compile information is undeniable. OpenStreetMap (OSM) - the "Wikipedia meets maps" non-profit organization - compiles geospatial data, provided by the public, and makes it freely accessible. In 2010, OSM made headlines and definitely proved its worth during the earthquake crisis in Haiti, as concerned citizens scrambled to acquire ground-level data that ultimately supported rescue efforts.

Individuals aren't the only ones contributing to OSM – government agencies are also looking for an efficient way to move large amounts of data from their GIS formats into OSM. That's why we're rounding out our OSM support by adding an OSM writer to FME 2011. FME's OSM Writer can generate OSM-compatible XML output, greatly reducing the effort required to transform your GIS data into an OSM-ready form.

Want to try it? The OSM Reader and Writer are both available in the FME 2011 Beta ([www.safe.com/Beta](http://www.safe.com/Beta)).



Participants of Graian Alps Mapping Party

## CAD to GIS: Bridging the Chasm

Getting information-rich CAD drawings into GIS systems is an age-old interoperability problem that many organizations still face today. The worlds of CAD and GIS both serve important purposes, but the chasm between the two - from a data integration and sharing perspective - is great.

Bridging the gap between CAD and GIS was a challenge recently faced by a city in Dale's home province of Alberta, Canada. Like many cities around the world, GIS at the City of Grande Prairie originated in the engineering group, with AutoCAD® as the main toolset. As web-based GIS came along, Autodesk MapGuide® 6.5 was added to provide the public with access to live data. But last year, when the City wanted to update their GIS system to MapGuide Enterprise, they hit a critical roadblock – how to automatically migrate data from Map 3D drawings into the new MapGuide Enterprise system when it no longer included direct data import

capabilities. A basic, manual import process would not cut it due to the volume of the data and the diversity of required formats. The City also needed a way to automatically link to the dynamic object data stored in the CAD files.

With help from Arrow Geomatics, the City used FME to bridge this chasm by creating an automated, repeatable process. FME workspaces were built to convert and restructure both DWG and DGN files – including object data - into the GIS system. FME is also used in conjunction with Windows Scheduled Tasks to automatically batch process conversions on a nightly basis. This ensures that stakeholders from all City departments, as well as public and private organizations, have access to the latest information. Soon, the City will apply FME to their data centralization project, by using it to load CAD data into a spatial database.

"FME bridged a critical gap between our legacy source data and the new GIS

platform being implemented," said Kent Bowman, GIS Analyst/Developer at the City. "This allowed us to avoid extensive rework of our existing datasets and still deliver the updated GIS product for our clients."

**Did you know?** Object data reading and writing capabilities were introduced in FME 2009. Visit [www.safe.com/Objectdata](http://www.safe.com/Objectdata) to access these handy resources:

- **Demo:** Importing Civil 3D Datasets
- **Webinar:** Converting/Integrating Map 3D Object Data
- **Example:** 3 Ways to Read Map 3D Object Data in FME
- **Demo:** Integrating Map 3D Datasets
- **Case Study:** City of Turlock

**Tip:** When converting CAD data, change FME's default resolution setting to a higher number to achieve clearer results.



## From Mountains to Molehills at Neftex

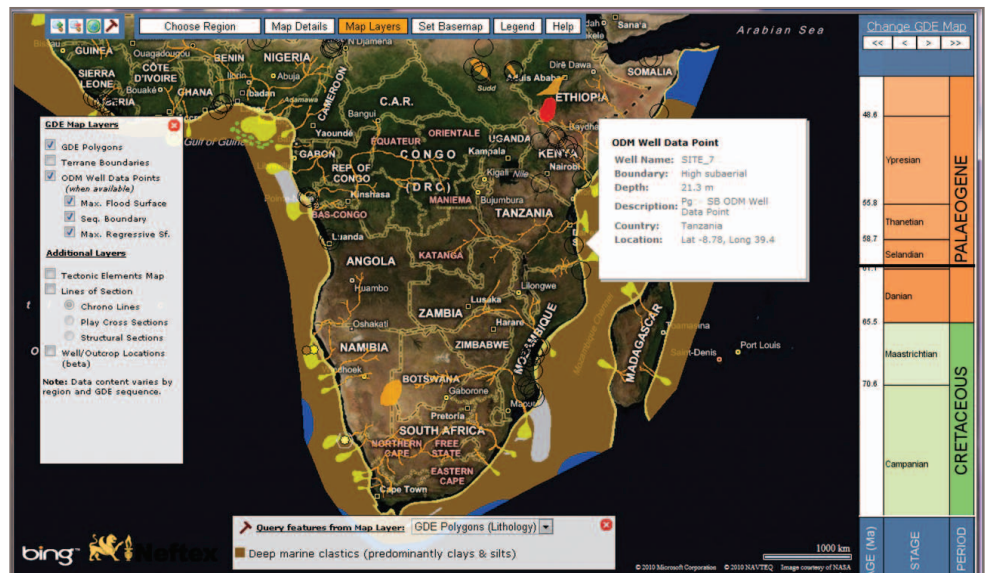
Transformation – sometimes it takes seconds, and sometimes it takes hundreds of millions of years. The transformation of our earth over the last 600 million years of its 4.5 billion year history would have been spectacular to see – supercontinents breaking up; tectonic plates drifting, crashing, and tossing up mountain ranges towards the skies; ice ages coming and going; massive volcanic events; sea level rising and falling; and explosions of life followed by mass extinction events.

The ground under our feet is the historical record that geoscientists analyze to reconstruct this history – and FME is an invaluable tool for one such group of scientists.

**Neftex Petroleum Consultants Ltd.**, based in the U.K., specializes in the collation, integration, and interpretation of large – often global – geoscience datasets, mapping the layers under the Earth's surface that represent these major historical events. The goal of this application of stratigraphy - the branch of geology that studies the origin, composition, distribution and succession of rock layers – is to identify the location of possible subsurface hydrocarbon-rich deposits. In other words, they are looking for oil and gas.

When Neftex was introduced to FME at the 2009 FME UK User Meeting in Southampton, it was the solution they had been looking for to one of their biggest challenges – how to effectively present global spatial datasets for 230 different geological ages, and deliver it via the internet? The sheer man-hours required to manually prepare and web tile the datasets was going to take a geological age in itself. The project was extremely challenging – that is, until FME entered the picture.

Neftex's source data – thousands of geological maps and interpreted well logs – is housed in ESRI® ArcSDE™ and Microsoft SQL Server® Spatial. First, they used FME Desktop to transform the geological subsurface maps (GDE) to web map tiles. FME handled the logistics of tile layout, identification, and file organization, while at the same time applying



The Geological Age slider lets the user navigate temporally through Neftex's GDE data.

symbology, reprojecting, rasterizing the vector data, and generating differently sized tiles for different zoom levels. Ultimately, these tiles – 1.5 million of them - are presented to the end user in a Microsoft Bing™-based web application.

"Earth Model", housed as a Bing application, is not only a high-level analysis tool, it also is the front-end interface to a SQL Server Spatial database that stores the detailed scientific data users can drill down into. Neftex used FME to perform both data validation and bulk loading into this linked data warehouse. Now that the heavy lifting of the initial data preparation is done, FME is handling the update cycle in maintenance mode, and Neftex keeps finding new ways to use FME to automate other repetitive tasks.

"What would have taken us man-years to accomplish, FME delivered in a matter of weeks", says Oliver Morris, IM Solutions Lead at Neftex. "The online resources – particularly Dmitri's Raster Studio on fmepedia – were invaluable tools to get us through the learning curve quickly, and into production".

What's next for FME at Neftex? Alex Rushforth, Web Mapping Developer, tells us that their users love having online access to

these rich datasets. "Now the customers are asking if they can have access to the GDE data as a web service, served directly into their own GIS applications. WMS and KML are our next areas of exploration. Perhaps we'll be back in a future issue of the Insider with an FME Server profile!"

Visit Neftex at [www.neftex.com](http://www.neftex.com) and Dmitri's Raster Studio on fmepedia at [www.safe.com/RasterStudio](http://www.safe.com/RasterStudio).

Expert  
Tip!



"For finer control when mosaicking rasters, use the AttributeCreator and Sorter transformers to define the order in which they enter the RasterMosaicker. The rasters will be shown in the order that they arrive – images that arrive later will be shown on top of those that arrived earlier."

– Dmitri Bagh is our FME Scenario Creation and Testing Analyst. Yes, it's as cool as it sounds.

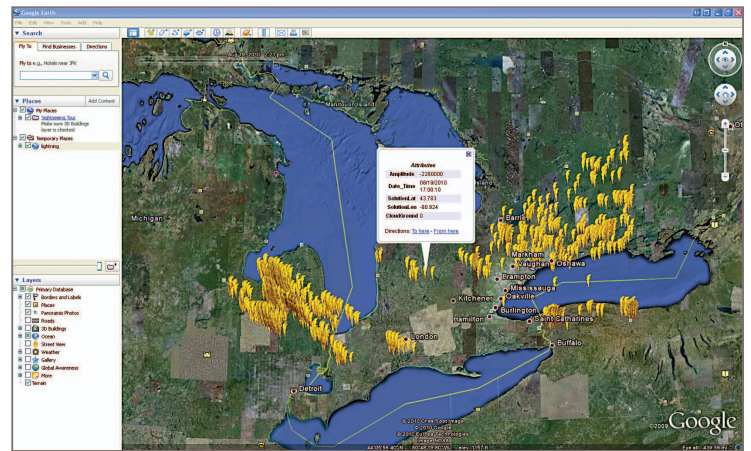
## FME Server Facilitates Lightning Quick Response

Travelling at speeds of up to 270,000 miles per hour, lightning strikes can ignite forests in an instant or damage and sometimes destroy expensive and critical infrastructure, such as power transformers and transmission lines. That's why **Pelmorex Media Inc.** – “**The Weather Network**” in English Canada and “**MétéoMédia**” in Quebec – developed the Pelmorex Lightning Detection Network (PLDN). FME Server plays an important role in its operation.

Using the PLDN, insurance companies, government agencies, transportation companies, and public utilities can access both real-time and archived data on the millions of annual lightning strikes in Canada. Across the vast Canadian landscape, Pelmorex has deployed numerous state-of-the-art sensors. Whenever a lightning strike occurs from coast-to-coast, strike data is picked up by multiple sensors and then triangulated to determine its location and other key information.

Using FME Server's data streaming and data download services, this strike data is restructured from non-spatial lat/long queries into a styled KML file. With updates occurring every 20 to 30 seconds, Pelmorex's clients have access to near real-time data which is made accessible via Google Earth™, an ArcGIS® Flex™ Viewer, email alerts, and more.

After only a three week development cycle, FME Server was in place, enabling the Pelmorex Lightning Detection Network to spatially query and retrieve lightning data exactly how and where it was needed. Now when a lightning strike occurs, clients immediately know where it struck, what type of strike it was, the polarity of discharge, and other key attributes. With instant access to this information, users can immediately take action. Historical strike data is also archived in Microsoft SQL Server for future analysis.



Lightning strike data from Southwestern Ontario is displayed in Google Earth courtesy of the Pelmorex Lightning Detection Network.

After recently taking an FME Server training course, Pelmorex is already contemplating new uses for FME Server. Laura Cerquozzi, GIS and Profiling Coordinator remarks, “We’re thinking of using FME Server to automate several resource-intensive tasks. Using FME Server, we’ll be able to free up resources and give others more control over their requests.”

Thanks to the PLDN and FME Server, Pelmorex can easily share its lightning strike data – something we feel is worthy of thunderous applause.



One of the millions of lightning strikes that occur each year in Canada.

Developing this functionality with FME Server was quick and easy. “Without FME Server, we would have had to build a custom solution and the estimate, just for a prototype solution, was six to seven months,” says Jim Saini, Manager of Profiling at Pelmorex.

Choosing FME Server also enabled the team to move with agility. “The beauty of FME Server lays in its flexibility,” explains Candy Lam, GIS Profiling Specialist. “When we needed to convert Epoch Time to Standard Time, we found that it was easy to use TCL script with FME Server to provide this functionality.”

### Did you know?

**fmpedia** is a gold mine of tips and examples, with two areas devoted to FME Server. The **FME Server Portal** provides technical tips and trouble-shooting information. The **FME Server Examples** page has more than a dozen live FME Server examples that you can view, try or download – and we’re adding more all the time.

Visit [www.fmpedia.com](http://www.fmpedia.com).



## The FMEvolution of China Mobile

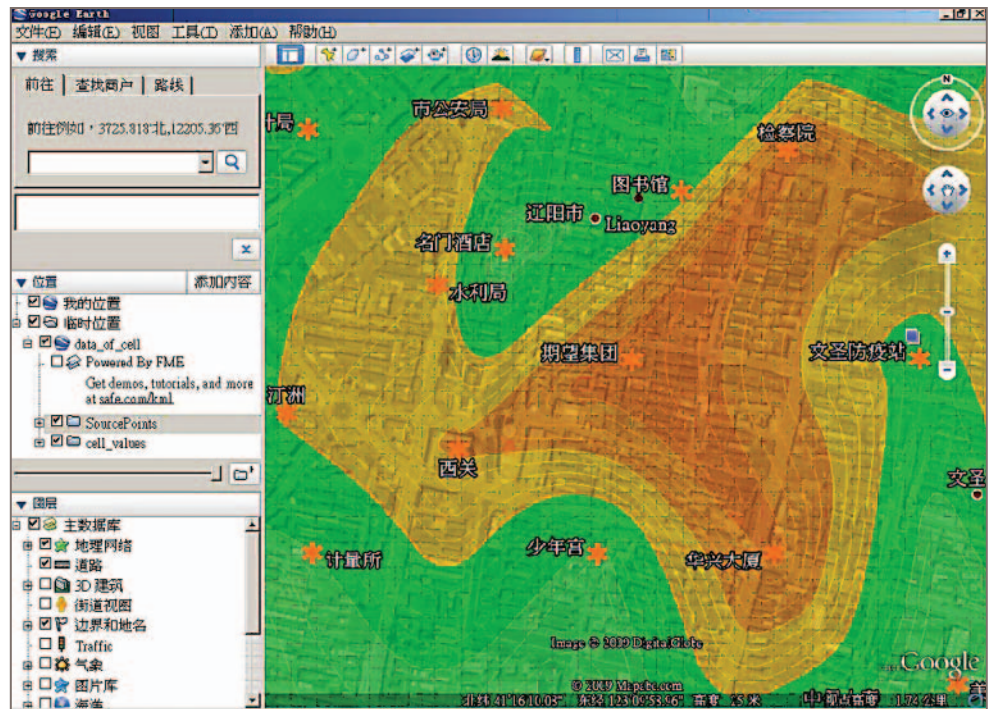
Remember the Motorola DynaTAC8000x? Perhaps not by name, but in 1984, the “Brick Phone”, as we fondly remember it, completely transformed the future of communications. Weighing in at almost 2 pounds, 10 inches tall (without the rubber antenna), and with a price tag of \$3,995 USD, it was the world’s first handheld cellular phone. Fast forward to 2010, and the mobile market is a whole different world. Now your cell phone probably fits in your pocket and gives you directions on how to reroute around a traffic jam that it already “knows” about. And cellular communications, once a luxury, are now a critical component of everyday life.

As a wireless service provider, **Liaoning Mobile Communications, a division of China Mobile**, needs ongoing, mission-critical, real-time spatial data for analysis and early warning. The solution? FME Server, implemented by the experts at Safe partner, **Beijing Antu I2M Co Ltd**.

Liaoning Mobile had three key requirements. One – find a way to extract business information from their databases and present it as KML in Google Earth. Two – present this information dynamically, in real-time. Three – give end users a variety of visualization and analysis choices, such as 3D spatial bar graphs, Thiessen polygons, and contours.

With FME Server at the core, Beijing Antu designed a workflow that would accomplish all three of these goals. FME extracts the data it needs from various database sources and transforms it, manipulating, reprojecting, and building the 2D and 3D geometry that end users want to see. The results are again transformed, this time into KML.

FME Server also facilitates communications between the data source and the client – in this case, Google Earth and Google Maps™. End users can instantly access and see the latest information that they need to make decisions. In the future, the same



FME-generated contours indicate current call volume conditions. The FME Server Streaming service can be seen in the data tree.

infrastructure is ready to support even richer client-side applications.

In the ever-evolving world of wireless communications, FME Server is enabling real-time solutions, connecting diverse data sources to diverse clients, and in a

multitude of languages. To learn more about what FME Server can do, visit [fmpedia.at](http://fmpedia.at) or [www.safe.com/FMEServerExamples](http://www.safe.com/FMEServerExamples).

### FME Server EasyTranslator

There's been a lot of buzz lately about our EasyTranslator example that is included with FME Server - right out of the box. The EasyTranslator lets you offer a web service that your users can upload data to, translate it, and then download the results. Don recently explained the elegantly simple architecture in our "It's All about the Data" blog: "This service relies on a trivial workspace to convert data from any format to any of the hundreds of formats that FME supports. Of course to do this, a lot of hard stuff is automatically being leveraged, as the underlying workspace exploits Generic, Dynamic, and Merge Feature Types technologies."

The evolution of FME – making hard stuff easier, and useful stuff easier to share. Try it yourself at [www.safe.com/EasyTranslator](http://www.safe.com/EasyTranslator).

## *FME User Spotlight:*

# **Kathy Cartlidge, Spatial Solutions Developer,**

FME User for 2.5 Years

### **What is your role at LagenSpatial?**

I'm an "all-rounder" technician who specializes in FME and MapInfo®. For FME, I manage our FME Server demo site, as well as provide technical support, training and onsite consulting.

### **How has your life "transformed" since you became an FME Technician?**

Believe it or not, prior to taking this role, I used to be a sales assistant and data entry specialist. Learning to use and support FME – without any prior spatial background - has been a wonderful challenge and very rewarding experience. I think I've found my true passion and calling.

### **Tell us about an interesting project you've worked on.**

The Wildlife History project for the New South Wales Royal Fire Service. I had to merge polygon datasets from various agencies, while applying strict rules. The workspaces were very complex, requiring custom and loop transformers, as well as several workspace runners.

### **Do you have any tips for FME users?**

If it doesn't work one way, keep trying different approaches until you get results. That's the beauty of FME – it has so many options that can help you get to the right solution.

### **What are your hobbies?**

I really enjoy anime, video games, drawing, reading, writing, piano, and programming – yes it's actually a real hobby of mine!



## **Transforming FME – a 2011 Preview**

With every release, FME undergoes a transformation – new features and formats expand your possibilities, while usability and performance enhancements make your work faster and easier. Our developers are hard at work putting the finishing touches on FME 2011, and the list of "What's Great" is a direct result of what you, our users, have been asking for.

This year it's become clear that LiDAR has entered the mainstream. Many of you have shared with us your ever-growing need to work with these massive point cloud datasets. That's why we are excited to announce that FME 2011 = LiDAR. The addition of point cloud handling – reading, writing, and numerous transformation options – brings this powerful 3D visualization medium into the world of FME. Soon you'll be able to apply your current FME

technology and skills to the world of LiDAR and integrate it with your vector, raster and other data.

Of course, there's more news than just LiDAR. The powerful new Querier transformer in FME 2011 will bring database-type querying abilities to all formats – database and non-database alike. We're also adding SQL-style predicates to the Tester and TestFilter to give you an expanded the range of options for test conditions. Whether you are a database user or not, these new and user-friendly features will provide greater flexibility in workspace design.

If you are working with XML, then you know how difficult it can be! FME 2011 is a huge leap forward in XML handling, reducing the time and complexity of XML reading and writing by literally orders of magnitude.

Simplification translates into time-savings, and the enhancements to the SchemaMapper, plus brand-new in-workspace

debugging tools can make your workflows much more efficient and intuitive.

The big news on FME Server is RESTful – a REST service, that is. Available with or without security, web application deployment just got faster and simpler. Also vying for the #1 spot in FME Server 2011 is the addition of scheduling, making the chore of performing recurring tasks easier than ever before. Performance has been boosted across the FME platform, and this year FME Server users will benefit the most.

What could be more transforming than a facelift? The FME Workbench we know and love has a brand-new look for 2011. We've also added "Themes" to put a little fun in your day – including a "Classic" look for traditionalists.

To get an early look at FME 2011, download the beta at [www.safe.com/Beta](http://www.safe.com/Beta).



*Now Open:*

## The FME Virtual Classroom

With the introduction of Instructor-Led Online Training, you're now able to attend an FME training course without ever leaving your home or office. Ideal for users who can't afford the time or expense of traveling to a training facility, this new training alternative enables easier access to a broader range of data interoperability topics.

Each online course is designed to teach you FME best practices, while at the same time allowing you to stay on top of your day-to-day work. Courses are held in 3-hour sessions over consecutive days, enabling students to attend class in the morning (Pacific Time) and then catch up on email in the afternoon. Outside of class hours, instructors remain accessible via chat, email, and phone.

So far the results have been very positive. In our pilot course, students were pleased with how intuitive the experience was. One attendee, Lawrence Chong of Transport Canada, remarked that "I enjoyed the online training experience. The pace of the course was just right and the exercises were easy to follow."

## FME User Meetings in October

Safe Software will be hitting the road this October for a series of free FME User Meetings in Northwestern United States and Canada – and you're invited.

You'll discover FME's top five use cases and hear about valuable new features and functionality, direct from Safe's President, Don Murray. Through casual networking opportunities and informative FME user presentations, you'll also find out how your peers are using FME to achieve total spatial data mastery.

Our expert Pro Services staff will also be on hand to share FME best practices, offer helpful tips and tricks and lead the ever popular "Ask an Expert" session where they'll

### Advanced Training Modules

An added benefit of online training is that we are now able to expand our overall course offerings for intermediate to advanced users. While we'll offer introductory courses this fall, in 2011 the majority of online courses will focus on advanced topics such as using FME with ArcGIS, spatial databases, or raster data – to name a few. Users will also be able to request private training in this newly offered format.

"By bringing together users with common interests from all corners of the globe, course content can be tailored to the participants' specific needs," says Don Murray, Safe's President.

With the virtual classroom as a new supplement to in-person training, FME education is now more accessible than ever before. But don't just take it from us, listen to Lawrence: "When time and cost is a factor, online FME training is an excellent alternative."

Check out a list of upcoming courses; visit: [www.safe.com/TrainingCalendar](http://www.safe.com/TrainingCalendar).

answer your interoperability questions.

Join us at one of these five cities:

- Regina, SK – October 18
- Edmonton, AB – October 19
- Denver, CO – October 20
- Seattle, WA – October 21
- Victoria, BC – October 22

To register, or for more details, visit [www.safe.com/FME-Recipes-for-Success](http://www.safe.com/FME-Recipes-for-Success).

[For those in Scandinavia, Safe and our partner, SWECO, will be co-hosting the Scandinavian FME User Meeting from October 11 to 12 – more details at [www.safe.com/Scandinavia2010](http://www.safe.com/Scandinavia2010)]

*Update:*

## FME International User Conference Coming to a City Near You

The FME International User Conference (Intl UC) is a marquee event that FME users from around the globe look forward to with great anticipation. Since many FME fans can't easily get to Vancouver, we decided to "transform" our 2011 event plan by bringing the FME Intl UC directly to you. That's right, in 2011 we'll embark on a world tour so you can experience the best of our world-class conference – live, on location in many cities around the world!

These one-day events will help you build your FME expertise and skills. Highlights include:

- Best practice sessions
- Local user presentations
- Networking opportunities
- 1:1 interaction with Safe staff
- FME Doctors Office

Cities and dates will be announced in December. To sign up to receive updates, visit: [www.fmeuc.com](http://www.fmeuc.com).



## The Latest News on FME

Can't wait for the next FME Insider? Keep up-to-date on FME by visiting our News Room. Here you'll find the latest news, including a video interview with Dale Lutz where he describes how to turn 2D into 3D with FME. There's also podcasts and user stories, like the article detailing how the City of Santa Rosa is using FME to improve its water asset management.

See what's new; visit [www.safe.com/NewsRoom](http://www.safe.com/NewsRoom).

## About FME

The FME technology platform makes it possible to transform spatial data to use and share. It solves more spatial data transformation challenges across more formats than any other solution, making it easier for professionals to solve data interoperability headaches and help their organizations meet their business goals and required standards.

Today, FME is the dominant technology for spatial data transformation. It powers our FME Desktop and Server software and the solutions of more leading spatial data application vendors than any other technology. It's used by tens of thousands of customers worldwide across a wide range of industries. FME is made by the experts at Safe Software. Learn more about achieving total spatial data mastery at [www.safe.com](http://www.safe.com).

## Helloooooo??? Is Anyone Out There?

Sometimes we wonder - who's actually reading our newsletter? That's why it was so rewarding when an email from Russell Foster at the Bureau of Statistics in Canberra, Australia, recently arrived in our inbox.

A recent "Emailing Spatial Query Results" article prompted Russell to share with us how the Bureau is using FME to automate data flows. First, they use FME to read and load quarterly data updates from the Public Sector Mapping Agency into an Oracle® production system. Then through the magic of FME and Python®, the processing status (started, failed or finished) of each

workspace is logged to a database, while a notification email containing each log file's results is automatically sent to those who need it.

FME + Python = a great combination that's making life a lot easier at the Bureau: "FME's power to bring Python and Oracle into the mix has enabled us to efficiently update our quarterly data way more easily than any other approaches."

See screen captures and read the full story at [www.safe.com/Canberra](http://www.safe.com/Canberra). Or, share your FME story with us at [editor@safe.com](mailto:editor@safe.com).

## Carolyn Vantol, Annual Maintenance Manager, Joined Safe Software in February 2006

### What is your role here at Safe?

As part of the Sales team, I manage our Annual Maintenance Program. It's a rewarding job as I get to hear how customers have been using FME since first becoming a customer.

### What's next for the annual maintenance program?

We've been working to improve the software delivery process. For the next release, maintenance customers will be able to instantly download FME 2011 instead of waiting for a DVD to arrive. Don't worry; customers who still require a DVD will receive one. On another note, we also recently introduced FME Gold Technical Support, an enhanced support offering for application-specific questions. [Editor's Note: For details, visit [www.safe.com/FMEGoldSupport](http://www.safe.com/FMEGoldSupport)].

### How do you spend your free time?

Cards, cards and more cards! Since 2007, I've been creating and selling roughly 300 handmade greeting cards each year. All of the profits are donated to the Canadian Breast Cancer Foundation, in honor of my cousin Jane who is now a cancer survivor after a long, well fought battle.

### Tell us a bit about your family.

My husband and I have two daughters who now live in Michigan and Alberta. We raised them to be independent, and they went and moved away – go figure!



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