

Army Corp of Engineers

Bridges gap between GIS systems and terrain teams with MAP2PDF

From its birth on the battlefields of the American Revolution to today, the United States Army Corp of Engineers provides vital services to support military and civilian interests across a full spectrum of operations. Army Corp missions include everything from water resources to environmental concerns, national infrastructure and homeland security in addition to their ongoing support of America's troops at war. These days, many of the geographers and engineers are discovering innovative ways to leverage their GIS data utilizing solutions from TerraGo Technologies.

"We first began using TerraGo's products over a year ago," says Ray Caputo, a geographer for the Engineering Research Development Centers' Topographic Engineering Center, otherwise known as ERDC/TEC. "From reconnaissance, to the global war on terror, to natural disasters, we constantly have the need to distribute mission-specific products to terrain teams," says Caputo. "We went looking for a solution that would allow us to easily create products using the data we have in these high tech GIS packages and deliver that information up and down the command chain and that's how we originally discovered TerraGo and MAP2PDF."

Most organizations that utilize geospatial data have very valuable information locked inside complex GIS applications that a small number of professionals understand and know how to use and TEC is no different. The Corps has engineers who are trained to use complex GIS applications and capabilities, but they also need the ability to share geo-referenced maps and data with professionals who aren't GIS application-savvy. "We were trying to figure out how to get giant files out of our GIS application into something that's a manageable file type and highly portable," says Caputo "and that's exactly what MAP2PDF does."

MAP2PDF, the TerraGo Technologies product line, leverages the popular Adobe® Acrobat® document formatting standard to provide a portable mapping format, known as a GeoPDF™. Utilizing MAP2PDF, TerraGo customers are able to create and publish layered, geo-registered maps. Users simply create a map and use MAP2PDF to export the data to a GeoPDF which can be distributed to non-GIS professionals who utilize Adobe Reader® to view maps, turn layers on and off, query attributes, display coordinates and create redlines and notes.

A GeoPDF can be sent to all kinds of field personnel, from engineers on the scene of natural disasters like Hurricane Katrina to soldiers in the field who utilize Adobe Reader® to manipulate the maps. No special training is required and most computers come with Reader already installed, so a simple, free plug-in from TerraGo is the only requirement for command chain users. Files are small and nimble, yet are embedded with powerful capabilities that allow engineers to work in connected or disconnected modes.

Users utilizing MAP2PDF for Acrobat have round-tripping capabilities and can make changes or revisions that automatically update organizational GIS data. For instance, if soldiers discover that a building previously marked as a civilian installation is actually being used for enemy purposes, updates can be done on the fly.

TerraGo plans to add round-tripping capabilities to the Reader product in future editions. "Most of our geo-referenced products are being created by soldiers who are trained in GIS products," says Caputo, "then, the people in the field can view, print and work with the data without doing anything special. There are very few PC's out there anymore without Reader and when we're able to have full-round tripping capabilities with them, we'll have even more flexibility."

In addition to warfighting, TEC also utilizes MAP2PDF to support homeland projects and little has been more important than effectively equipping engineers to deal with issues on the ground in the wake of Hurricanes Katrina, Rita, and Wilma. One such project is simply called the "Blue Roof" initiative. Engineers are able to fly over areas and take aerial photos of buildings, then turn the photos into PDF's for the teams on the ground with the blue tarps. "The files can be distributed via the Web, so teams can respond quickly and tarp buildings with compromised roofs to minimize further damage," says Caputo.

Caputo says TEC has big plans for MAP2PDF including a demand-based library where engineers can download the map they need from a gallery on the Web. "When we're able to provide the library, engineers will be able to get the GIS data they need even more quickly because they won't have to wait for maps to be created. We can make huge numbers of the maps we've already created available for immediate use." Caputo also says the Army Corp. GIS pros and non-GIS pros alike appreciate the abilities of TerraGo's products. "They get the data they need in an easy to use and distribute format. Everyone who has seen it loves it."

About TerraGo Technologies

TerraGo™ Technologies is the provider of mapping solutions that leverage the Adobe Portable Document Format (PDF). TerraGo's product line, MAP2PDF allows GIS professionals to convert complex, georegistered geospatial data into maps with extensive, embedded data which can be easily distributed, viewed and manipulated by non-GIS professionals, leveraging valuable geospatial assets across the enterprise. For more information, visit www.terragotech.com.

Facts in Brief:

The Challenge

The U.S. Army Corp of Engineers serves a broad group of constituents with an array of missions—everything from water conservation to support for troops at war and every mission has terrain teams in the field who need continual access to mission-specific GIS data.

The Solution

The Army Corp of Engineers chose MAP2PDF from TerraGo Technologies when they wanted a solution that would enable the creation and distribution of maps utilizing data from their GIS systems. They needed tools to pull large files from GIS applications into a format that is manageable, highly portable and easy non-GIS professionals to use. MAP2PDF lets Corp GIS engineers create maps with complex attributes and distribute them via a GeoPDF, leveraging Adobe's popular Acrobat applications.

The Benefits

- GIS engineers create maps using their GIS data and are able to distribute them to anyone, anywhere in the command chain. Field personnel use Adobe Reader to view maps, turn layers off and on, query attributes, display coordinates or create redlines and notes.
- A GeoPDF can be sent anywhere, anytime and used in connected or disconnected modes.
- Acrobat round-tripping capabilities allow for integration of data gathered in the field with enterprise GIS systems.
- Libraries of maps can be created to make large quantities of geospatial data immediately available to terrain teams.