

Better BI: Erlanger, Kentucky Police Department

By mashing together search, BI, and mapping, police officers can view real-time crime data along with past records.

At a Glance

The Erlanger Police Department serves a community with a population of more than 15,000 that's located 80 miles north of Frankfurt, the state's capital.

- **Project champions:**
Marc Fields, chief of police;
Steve Castor, manager of the communications center
- **Project cost and payback:**
About \$70,000. The department hopes that it can continue to handle the 5 to 10 percent annual uptick in calls without adding more personnel
- **Size of the IT group:**
Six IT staffers developed the project

By combining business intelligence (BI) and two foundations of Web 2.0 – search and mapping – a police department in Kentucky has built a brand-new window into crime. This Web-based BI portal allows patrol officers to enter data – or even pieces of data such as a few numbers from a license plate – into a simple search interface and retrieve information from their own databases and those of neighboring towns.

For the past several years, officials in Erlanger, Kentucky, had been planning a project to consolidate fire and police department communications for more than a dozen communities into Erlanger's communications center. However, the Erlanger Police Department didn't have a way to tap into the records management systems of 19 separate government agencies in order to search and analyze information about suspects, reported incidents, arrests, and crimes. And even though Erlanger had been manually mapping crimes based on its own data for three years, the task was time-consuming, and the mapping wasn't available in real time. Moreover, other communities' departments hadn't done any crime mapping, says Marc Fields, Erlanger's chief of police.

One search product was able to search Erlanger's own records management system, but it couldn't search the systems operated by the

other agencies. It also didn't provide BI analysis or meet the mapping requirements for the project.

After failing to find a single product to automate the entire crime mapping and analysis process, Fields and his colleagues accepted an offer from the local planning department to use its tools: Environmental Systems Research Institute Inc. (ESRI) geomapping tools and WebFOCUS BI software from Information Builders.

They completed the system by adding an open-source search appliance from Apache Lucene and an Information Builders tool called WebFOCUS Magnify, which compiles structured and unstructured data references into an index that can easily be searched. Magnify then uses metadata about the structured data to categorize search results to give users a better context and relevancy for queries.

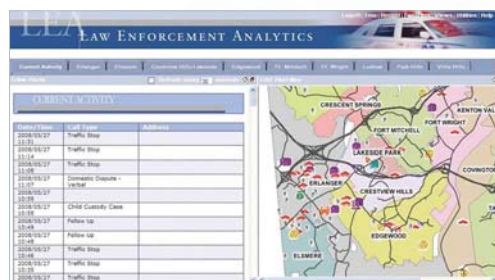
By mashing together search, BI and mapping, the new Web-based system combines real-time crime data from multiple agencies with crime records and incident reports stretching back five years to link information about suspects, incidents, and arrests. In July, the Erlanger police department rolled out the system to 150 patrol officers, who can access it from displays in their cars powered by cellular signals.

"[Magnify] was really able to capture both of the goals – to more completely search our records management systems and at the same time... to create maps and information that officers could use to more efficiently go about their daily activities," says Steve Castor, manager of the communications center. "[Officers] can see over the last 24 hours where calls have

occurred and compare crime stats against last year's data and this year's data."

Or an officer, for example, could type a partial license plate number into the search interface and pull up any other information (such as dispatcher notes, detective interviews, or incident reports) that included that same partial license plate number, Castor adds.

The BI portion of the system allows a patrol sergeant at the beginning of a shift to review an analysis of calls that came into the center within the



Patrol sergeants can review recent call activity and past criminal trends by neighborhood.

past 24 hours in a text-based or visual format (with the maps). The sergeant can then decide where to send officers based on crime trends. The project, which cost about \$70,000, has had its challenges. Information Builders spent about six weeks with Erlanger learning what fields of information were the most important to search and where the data was located within those fields, Castor says.

In addition, the ESRI server was at first overwhelmed by the volume of data being sent for mapping. To fix that problem, he says, the system was changed so the map doesn't update for every call that comes through to dispatchers, but only

when a user clicks to update a key performance indicator that includes that location.

Fields says the project's success will be judged in part by whether the department can continue to handle the 5 percent to 10 percent annual uptick in calls to the communications center while maintaining its recent 1 percent to 2 percent annual rate of increase in crimes solved – all without having to add more personnel.

Wayne Eckerson, director of research at The Data Warehousing Institute, says the most-common Internet mashups – like those that link Google Maps with another data source – are showing BI managers new possibilities.

"These demonstrations are opening the imaginations of folks as to the types of applications that are possible and getting users and management out of the rut of just expecting and asking for run-of-the-mill management reports," he says. "These mashups can potentially add information that makes it possible to make better operational decisions on the front lines – or anywhere else." 🌐

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