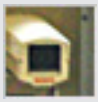
This story on the web
- Flash page
- Non-Flash page

New York Police Dept. Real Time Crime Center
- Let's go to the videotape

Threat and Fraud Intelligence
- Everything you need to know



Smart Surveillance
- In the news
- In the retail industry
- In banking

Fighting crime on the street
- Santa Barbara, CA
- Tyler, TX
- West Haven, CT

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Piecing together a crime in bits and bytes

While forensics coaxes the details of a crime out of the physical evidence, analytics can coax the story of a crime out of the data: names, ID numbers, photos, video, signatures, even information gathered decades ago. Take a look.

Entity Analytics

One person, multiple identities

Crime and terrorism attempts are pervasive and increasingly sophisticated. Yet they share one thing in common…they involve people, making identity recognition—knowing who a person is and who they associate with—a critical weapon in fighting crime.

In our global, mobile society, identities are easily "blurred." Organizations merge and combine databases. People get married or divorced. Names vary across cultures. Clerical errors are made once and perpetuated. Opportunity is ripe for people looking to misrepresent themselves for purposes of theft or fraud.

Further complicating the situation is the fact that organizations find themselves limited in their ability to respond due to privacy concerns.

With IBM Entity Analytics, you can balance your "need to know" about an individual, with his or her right to privacy. This data engine can sift through a wide spectrum of databases to build a deep, timeless "view" of a person, including relationships. This view changes in real time as new information is

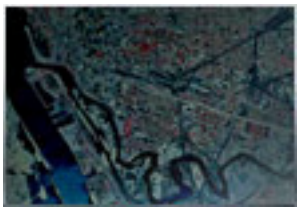
introduced into any one of the databases. Details are accumulated—not just updated—so the profile retains access to old addresses and employers, etc. even after original data has been purged from the source database.

Play video (2:25min, 2MB)
Read this video transcript on page 4

Global Name Recognition

What's in a name?
While numbers can be verified, names can't… making them one of the easiest and most common means of "blurring" an identity. IBM's Global Name Recognition solution, which includes a database with almost one billion names from around the world, can help organizations recognize and understand the person behind the name.

Play video (2:33min, 2MB)
Read this video transcript on page 5



Smart Surveillance

On July 7, 2005, a series of terrorist bombs hit London's public transport system during the morning rush hour, killing 56 people. Elements of London's video surveillance system were critical in helping police to identify the bombers and solve the case. Today, one in four major cities in America are investing in video surveillance, making it the fastest growing segment within the electronic security industry[1].

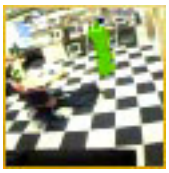
Rewind back to ten years ago
Surveillance meant a security guard sitting in the basement watching over a bank of closed-circuit TV screens, changing the tapes every six hours. To stop a crime, he would have to be watching as it happened. To identify the incident would take hours of tracking. And linking that video to related events, such as gunshots fired, would be exhaustive. Today, with IBM Smart Surveillance, that same guard might be out patrolling while carrying a laptop or PDA, with access to hundreds of high-res camera feeds and alerts that signal events as they happen. He could search through hours of video in moments, and identify patterns of activity over the long term. Other data, from sensors on the

same network or extracted from the video, could integrate with license plate readers, facial recognition or gunshot detection systems to fill in the complete story.

[1] MSNBC, "Tech: Surveillance cameras become big business", March 15, 2006

Face cataloging: who is where?

In this store, the video surveillance system answers the question "who is where?" by using a multi-camera set-up, a Face Cataloger system and 3-D position tracking. Once a person is detected, the cameras automatically pan, tilt and zoom to acquire close-up frontal views of the person's face. The face images are then associated with the 3-D tracking information, which identifies where the person has moved. The face images can be used for identification by a person or a computerized system. In standard surveillance, the face is often missed as a person passes the camera.



Play surveillance video (0:46min, 1MB)

Find the red cars, show me the people

In this hypothetical example, a bank robbery took place, with perpetrators fleeing in a red car. Investigators can requisition footage from the bank's outside surveillance cameras and query "show me all red cars that passed by the corner at this time." This can narrow down the search to a specific car model. License Plate Recognition, under the right conditions, can apply optical character recognition to extract the plate number. In addition, Smart Surveillance can analyze a secondary query: at what time were there fewer or more people?…with the goal of identifying potential witnesses.

Play demo (24 sec, 65K)

Entity Analytics

Video transcript

Now let's see the IBM Threat and Fraud Intelligence Solution for Law Enforcement in Action.

Detective Tom Kim was leading an investigation into the activities of one Brian Hester, suspected head of a city-wide drug distribution ring. Detective Kim was not having much success. It seemed every time one of his undercover officers would get close to the suspected crime boss, the cover would be blown and the investigation would come to a sudden halt.

On a hunch, Detective Kim ran the department's employee file through the real time collaborative criminal investigation and analysis system. This analytic repository created to disambiguate identities and expose relationships between criminals, syndicates and gangs was being used across several regions and departments to analyze and expose criminals trying to hide their identities and their links to other persons or organizations.

Working with an analyst, Detective Kim sets the system to generate alerts based on shared bank accounts, telephone numbers and P.O. boxes to look for links between Mr. Hester and persons employed by the department.

The system immediately generates an alert showing that Officer Kate Green in the Booking Department has the same cell phone number previously used by the crime boss. Further investigation reveals that Officer Green was in fact the suspect's ex girlfriend.

It was subsequently discovered that Hester would employ Officer Green to cross reference names and photographs of all his people, contacts and customers against the list of all the department's employees to reveal the presence of any undercover officers.

Using IBM's Real Time Collaborative Criminal Investigation and Analysis Solution for Local and State Law Enforcement, Detective Kim was able to reveal the inside threat and close the investigation.

In another scenario, Jim Evans gets pulled over for a speeding violation on the Cross Bronx Expressway. The officer runs his plates, checks his license, issues a ticket and sends him on his way.

Had the officer been using IBM Threat and Fraud Intelligence Technology however, she would have known that the driver she just pulled over is wanted for multiple violations across the region and is, in fact, hiding his identity using aliases, multiple licenses, vehicles and addresses.

Crime fighters can now use the information they have on Jim Evans to drill down into the repository for deeper analysis in building rap sheets, uncovering criminal relationships, identifying conflicts and investigations and generating leads.

[End of segment]

Global Name Recognition

Video transcript

Name recognition is much more of an art than it is a technology and names are by far the most challenging attribute to recognize. Addresses and telephone numbers can be verified; however, there is no central verification source for names.

Names differ based on geography, culture, gender, tribe and family. Effective name recognition technology must take all of these variables into consideration.

Names can also contain a variety of optional information such as titles or nicknames, causing them to appear very different. Names aren't just a string of characters. They are data objects for which principles of similarity must be determined. Names remain the single most important means for identifying a person. Malicious people around the world are learning how easily most name search systems can be circumvented.

IBM's Global Name Recognition Technology is optimized for the multicultural nature of most global name sets and is well equipped to deal with things such as name variations, nicknames, shortened names, multiple name prefixes, name order, titles, as well as genderizing and phonetic misinterpretations.

This technology is built upon a database of close to one billion names from around the globe and has been used extensively by United States security and intelligence agencies since 2001.

A combination of the names database, name-specific algorithms and user-interface tools offers industry-leading capabilities designed to give you the best understanding of names.

Let's look at an example from Southeast Asia. The Chinese characters shown here represent the person's name in the native Kanji. There are multiple transcription standards across the region as well as many dialects which result in extremely different versions of the Romanized name as we see on the right.

IBM has studied and encoded the various transcription standards into our software approach. The IBM Global Name Solution could detect that [Zang Q Su and Chang Tu Su] are likely to be the same person. Most US centric name-matching routines cannot do this because they do not recognize the variations stemming from cultural differences.

In Arabic, the issue can be even more complicated as is demonstrated here. Across the top, you see a man's name written in the Arabic script from right to left.

Each of the five regions pictured uses a different method of transliterating the same name from Arabic script into the Roman character set. Therefore, each of the variations of name Mohammed shown here represents an accurate rendering of the man's name in that particular region.

[End of segment]

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