



Brazil's Ministry of Justice

Brazil's REDE-LAB identifies illicit assets with help from IBM Watson Explorer

Overview

The need

To help fight corruption, organized crime, drug trafficking and money laundering, Brazilian authorities from the Ministry of Justice needed to identify and investigate the illicit proceeds of criminal activity – but how?

The solution

Using IBM® Watson™ Explorer, Brazilian authorities can now analyze terabytes of structured and unstructured data from databases, spreadsheets and even social media, enabling rapid detection of illicit assets.

The benefit

Enables highly efficient data-gathering from dozens of different sources, eliminating thousands of hours of manual investigative and research efforts.

Established in 2003 by Brazil's Ministry of Justice, the Department of Assets Recovery and International Legal Cooperation, at the National Secretariat of Justice, is responsible for recovering the proceeds of corruption, organized crime, drug trafficking and money laundering.

In 2007, the Department created the Technology Laboratory Against Money Laundering (LAB-LD) to support complex investigations into corruption and money laundering. Following the success of the first initiative, the government began implementing similar units in other state and federal organs from 2009.

As of 2014, there are 43 laboratories across Brazil, which make up the Federal Laboratory Network Against Money Laundering (REDE-LAB). In these laboratories, a vast amount of data is analyzed to uncover and freeze illicit assets, using a methodology developed by specialists and replicated throughout all laboratory units.

To target drug traffickers and corrupt officials, investigators need to work fast. "IBM Watson Explorer enables automated, intelligent data mining that accelerates our financial analytics exponentially: helping us to rapidly identify and freeze even the best-hidden illicit assets," says Roberto Zaina, Coordinator of the Federal Laboratory Network Against Money Laundering at the Department of Asset Recovery and International Legal Cooperation in Brazil.



Solution components

Software

- IBM® Watson™ Explorer
- IBM i2® Intelligence Analysis Platform
- Via Appia TheXML

IBM Business Partner

- Via Appia
-

According to Paulo Abrão at the National Secretariat of Justice: “We came out from 13 laboratories in 2010, with an investment from the government of close to USD2 million, and after an investment of USD18 million more, now we count on 43 units. Today, we can say that every big operation that includes the analysis of huge amounts of data goes through the structure of these Laboratories.”

Ricardo Saadi at the Department of Assets Recovery says: “Our laboratory personnel are expert in analyzing vast amounts of information to produce precise reports. The laboratory network increases the quality of our investigations, and of the justice system itself, improving prosecution outcomes. To date, REDE-LAB has identified the equivalent of USD8.9 billion in illicit assets, helping authorities to bring legal action against suspected perpetrators of crime in Brazil.”

Rapid analytics catch criminals

To move faster than the criminals it sought to catch, the laboratory network wanted to shorten the time taken to identify illicit assets.

Roberto Zaina, Coordinator of the Federal Laboratory Network Against Money Laundering at the Department of Asset Recovery and International Legal Cooperation, says: “Financial investigations rely on massive quantities of data from a variety of sources. We receive years of bank account activities and statements, email exchanges, phone records, company registrations, as well as data from social media networks.”

Zaina continues: “Analyzing all this data without the proper tools is both complex and time-consuming. For example, in a large investigation a few years ago, analyzing hundreds of terabytes of data took us ten months and thousands of person-hours, as our investigators had to go through hundreds of hard drives manually.”

Need for intelligent data mining

REDE-LAB wanted to automate and dramatically accelerate its analytics processes. The need to process huge volumes of structured and unstructured data increased the challenge significantly.

“About 60 percent of our data comes from structured sources – databases and spreadsheets, for example – and the remaining 40 percent from unstructured sources, such as Twitter, Facebook and email,” says Zaina. “This unstructured data presents a variety of tough analytics challenges – and we expect to see a greater proportion of unstructured data as the popularity of social media grows.”

“We estimate that IBM Watson Explorer will enable us to accelerate our investigations exponentially.”

— Roberto Zaina, Coordinator of the Federal Laboratory Network Against Money Laundering at the Department of Asset Recovery and International Legal Cooperation

Selecting IBM Watson Explorer

After a public tender outlining the technical and cost-efficiency requirements and involving the participation of a number of leading vendors and integrators, the winning solution was IBM Watson Explorer, delivered by IBM Business Partner Via Appia.

“Via Appia has a strong reputation in Brazil for big data and business intelligence projects, which proved to be a major asset for this engagement,” says Zaina.

Working together with Via Appia, REDE-LAB implemented and configured IBM Watson Explorer to mine a comprehensive set of source data.

“At the start of an investigation, Watson Explorer builds a staging area to collate all of the pertinent data,” says Zaina. “By assessing the quality of the data in motion, terabyte-sized hard disks can be reduced to only a few gigabytes of relevant data. After indexing the remaining data, the solution enables us to perform keyword and semantic searches, regardless of whether the underlying data is in a structured or unstructured format.”

In the past, the laboratories’ investigations required highly skilled investigators to spend thousands of hours crawling through spreadsheets, emails and social media posts. Today, the laboratories can free their investigators to spend less time identifying the relevant data, and more time on the all-important analysis.

Accelerating analytics exponentially

With the help of its IBM solutions, REDE-LAB has achieved its aim of automating complex data mining processes – enabling investigators to accelerate their work dramatically.

“We estimate that IBM Watson Explorer will enable us to accelerate our investigations exponentially,” says Zaina. “Identifying illicit assets requires us to move faster than the criminals, and our IBM solutions are helping us to do just that.”

“We use the specialist TheXML software and search appliance from Via Appia to build ‘ontologies’ for IBM Watson Explorer at the start of our investigations. Ontologies are data models that describe subject-specific concepts and the relationships between them,” says Zaina. “For example, our ontologies can contain metadata on suspects’ nicknames, partners and accomplices, as well as slang terms for criminal activities – for example, the word ‘flour’ for ‘cocaine’.

“IBM Watson Explorer helps us to separate the signal from the background noise, which frees our investigators to focus efforts on uncovering the hidden connections that point to illicit assets.”

Before the successful IBM Watson Explorer deployment, the REDE-LAB had been using IBM i2® solutions for a number of years.

“IBM i2 software augments the analytics capabilities of IBM Watson Explorer by enabling the visualization of the results of our analytics,” says Zaina. “As a result, our investigators can identify patterns of illicit financial activity faster and with far greater precision.”

For more information

To learn more about IBM Watson solutions, contact your IBM sales representative or IBM Business Partner, or visit us at: ibm.com/watson

For more information on Via Appia, visit: www.viaapia.com.br

For more information on the Ministry of Justice in Brazil, visit: www.justica.gov.br/portaIpadrao

For more information on the Department of Asset Recovery and International Legal Cooperation, visit: www.justica.gov.br/sua-protecao/lavagem-de-dinheiro/institucional-2

For more information on the Federal Laboratory Network Against Money Laundering – REDE-LAB, visit: www.justica.gov.br/sua-protecao/lavagem-de-dinheiro/laboratorio-de-tecnologia-contra-lavagem-de-dinheiro



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