

Investigative Analysis in Law Enforcement

IBM i2 Enterprise Insight Analysis

Highlights

- Provides a defined solution for investigative and intelligence analysis
 - Fuses data from multiple internal and external sources
 - Built-in advanced analytics to quickly find hidden patterns and connections
 - Helps provide a cost-effective and scalable approach
 - Increase speed and accuracy of analysis
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Unlike popular TV crime shows, discovering clues for complex crime rings takes a lot more time than an hour. Investigative analysis is a detailed tradecraft where the clues to advancing investigations and solving crimes often span numerous sources of information in multiple locations. As a result, law-enforcement agencies are often challenged to uncover insights as quickly as necessary during time-sensitive investigations.

IBM i2 intelligence solutions enable law-enforcement analysts to use disparate datasets and multidimensional visual analyses. By developing comprehensive views of the connections between people, places, technology, criminal activity and more, analysts can improve their efficiency and help reduce crime.

Purpose-built solution for investigative and intelligence analysis including digital forensics

IBM i2 Enterprise Insight Analysis delivers advanced analytics out of the box to provide investigative analysts the optimal knowledge tools for intelligence analysis, lead generation, agency collaboration, geographic information system (GIS) and crime management.

The solution supports agencies of all sizes, providing extensive data acquisition and multifaceted analysis capabilities that can scale across hundreds of terabytes of data and provide results in near real time. This helps analysts develop a clear, common intelligence picture that can be securely shared among local, national and transnational departments or organizations, as well as public safety partners. With its scalable, extensible design, IBM i2 Enterprise Insight Analysis can help law-enforcement

analysts overcome information overload to collaborate and apply the tradecraft they already know—at scale and with critical speed.

Fuse data from multiple internal and external sources to support a wide range of missions

IBM i2 Enterprise Insight Analysis supports a wide range of crime and intelligence analysis missions, such as:

- Major crimes investigations
 - Crime analysis and mapping
 - Strategic intelligence analysis
 - Cyber-crime analysis and digital forensics
 - Counter-terrorism
 - Customs and border security
 - Fraud and financial crime
 - Child protection investigations
 - Organized crime investigation and monitoring
 - Community policing
 - Hate crime investigation
 - Counter-narcotics
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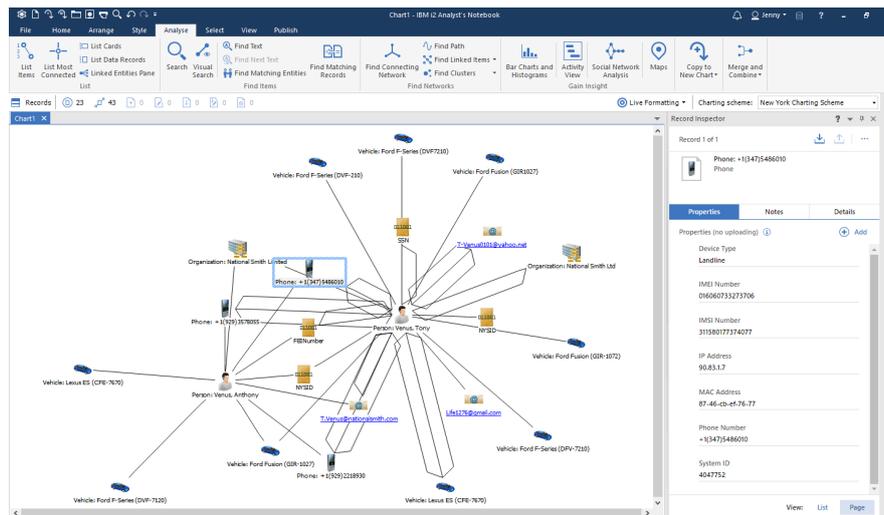


Figure 1: Multifaceted analytics and data acquisition tools help intelligence analysts get a clear, comprehensive picture that can help your organization make smarter decisions.

Major crimes investigations

Deploying IBM i2 Enterprise Insight Analysis in local law-enforcement agencies gives detectives and analysts a robust, powerful analysis and investigative tool to transform their workflow process and remove a significant amount of manual processing often necessary to produce actionable intelligence. Efficiency gains measured in hours per shift per detective have been independently recorded. Suspect inquiries can now take minutes instead of days and weeks.

Using IBM i2 Enterprise Insight Analysis as an integral part of day-to-day operations empowers detectives with accessible, shared and trusted information. With growing amounts of connected information to search from, analysts and detectives, using even partial leads, are often able to identify suspects, their associates, known addresses and other actionable insights.

Cross-agency collaboration

National, local and regional law-enforcement agencies often need to collaborate across jurisdictions as well as with non-law-enforcement organizations. For example, customs and border security might work with child protection services on people trafficking and child exploitation cases, or welfare management services might help to address fraud and criminal rings. To work together effectively, law-enforcement agencies need a solution that enables them to share information and collaborate with one another as well as with partners.

IBM i2 Enterprise Insight Analysis helps law-enforcement agencies exchange information with their partners by providing clear management dashboards and enabling them to *push out* intelligence and information in the form of clear briefing charts. They are then able to better gather information from their partners and incorporate it directly into their intelligence repository.

With reduced time spent on data processing, analysts can focus their efforts on uncovering patterns and connections patterns to develop smarter, tactical and strategic reports more quickly. The ability to share and exchange information helps all agencies create stronger intelligence to improve collaboration and achieve their missions more quickly.

Cyber crime and law enforcement

Criminals are leveraging cyber tools to perpetrate traditional and nontraditional crimes. Law-enforcement analysts must identify, disrupt and prosecute offenses committed through cyberspace, while protecting both their own system vulnerabilities and the public. At the national level, law enforcement and national security agencies must also be able to disrupt and prosecute those who use cyber attacks to threaten critical infrastructure, such as power grids.

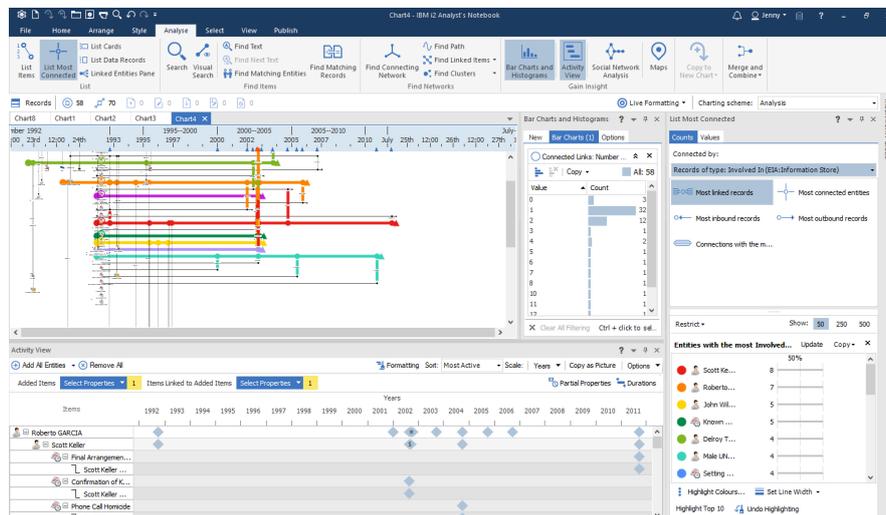


Figure 2: Identify and highlight relevant information faster with a powerful range of analysis and visualization capabilities.

In short, the use of cyber-crime analysis is increasingly becoming a necessary element of law-enforcement crime management.

IBM i2 Enterprise Insight Analysis has fine-grained analytical capabilities designed to help organizations turn large quantities of disparate data into a comprehensive intelligence picture, which applies equally to cyber-crime analysis. For example:

- Uncovers temporal activities to the millisecond

- Uses data acquisition connectors that support near real-time analysis
- Provides advanced GIS and data-layering techniques

The advanced analytics applied at scale and speed with an interoperable and flexible design, make IBM i2 Enterprise Insight Analysis a cost-effective solution for protecting the public from this growing threat vector.

Leverage advanced analytics to find hidden patterns and connections

During live investigations, time-critical decisions are based on the ability to quickly understand the substance and significance of both stored and incoming information. IBM i2 Enterprise Insight Analysis includes data extraction and rapid data-entry tools designed to help law-enforcement analysts process data more quickly. These assisted and automated analytics perform entity resolution against massive data sets and offer the ability to run multidimensional analytics and advanced queries across hundreds of terabytes of data, providing results within seconds.

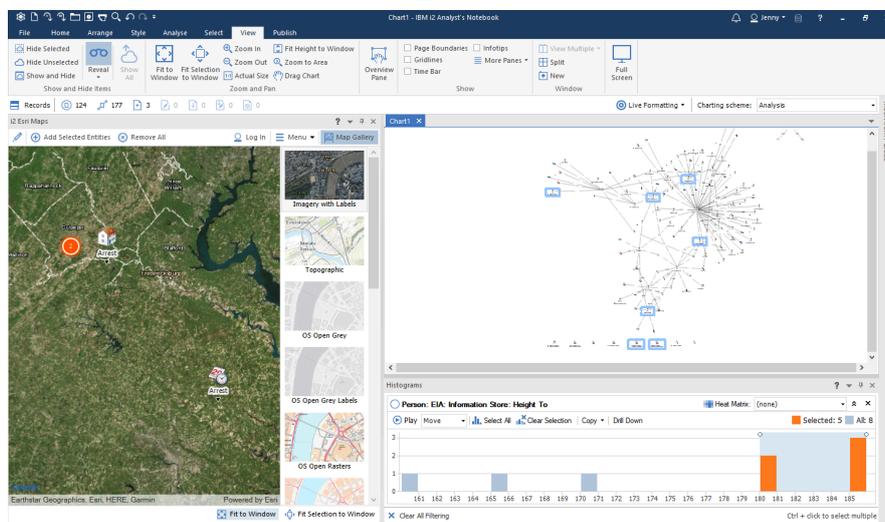


Figure 3: Geospatial data visualization adds another data dimension to aid comprehension. Geospatial capabilities are enabled with IBM and third-party software.

IBM i2 Enterprise Insight Analysis features:

- Scalability and interoperability by design

- Advanced GIS capabilities that can be accessed through a connector
- Temporal visualization down to the sub-second level
- Social network analysis algorithms to identify key players and lines of investigation
- Social engineering and data layers
- Heat matrix for *pattern of life* analysis
- Advanced search and discovery with quick search and visual query
- Flexible and extensive data acquisition framework
- Data provenance and data traceability
- Familiar intelligence chart briefing format used by law enforcement agencies around the world

Visual analysis expedites data processing and manual tasks

With advanced analytic capabilities, users can explore, visualize and quickly cull massive data sets down to manageable high-value subsets to further speed their analysis. Using visual query, the task of asking complex questions is simplified and can increase productivity. The analyst can use icons to visually draw out or diagram the question with no coding and no special support required.

Incorporate and analyze new data

IBM i2 Enterprise Insight Analysis offers the ability to ingest data into a shared repository as well as query data in place. The continuous data-ingest feature enables data to load across multiple threads at the same time. This minimizes the latency created by batch loading data on infrequent schedules at the same time to support real-time mission analysis and decision making on the latest operational data during the loading process.

Resolve identity and relationship connections

The IBM i2 Enterprise Insight Analysis Recommendation Engine add-on provides assisted analysis. This enables users to use identity resolution to reconcile duplicate entities masked by aliases and set alerts to proactively track new and critical information. The open architecture also provides users with the agility to customize and create their own analytics to support investigation-specific requirements.

By taking advantage of these additional advanced analytics with the IBM i2 Enterprise Insight Analysis solution, big data isn't a challenge. It's an intelligence-rich resource.

Integrate and analyze unconnected sets of information

Intelligence analysts must often interpret large amounts of data from multiple sources, including situation reports, spot reports and open source information. IBM i2 Enterprise Insight Analysis can help capture, process and integrate this information. Analysts can efficiently store, retrieve and analyze all source information gathered. This can then be integrated and visualized with open source information to create a clear, comprehensive operational picture that can help simplify tactical and strategic planning.

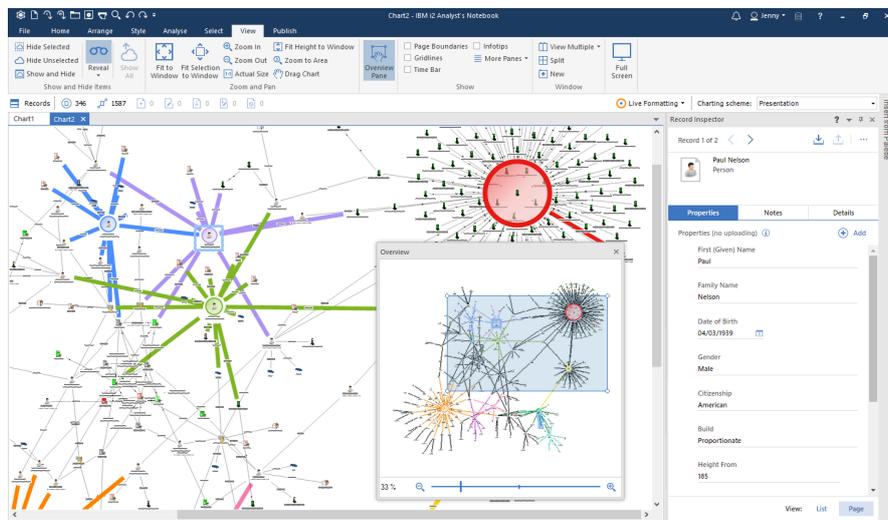


Figure 4: Users can combine various social network algorithms to uncover network nuances, key individuals and other insights.

Increase efficiency

- Consolidate massive data sets with a constant automated identity-resolution engine.
- Search, automatically process and analyze unstructured data.
- Perform link, temporal and geospatial queries and run network analytics across hundreds of terabytes of data in seconds.

Increase accuracy

- Test hypotheses and query terabytes of data in seconds.

- Uncover relationships separated by several degrees.
- Receive automatic alerts when data is added or altered.
- Discover non-obvious relationships by applying multidimensional visual analytics.
- Uncover temporal, network

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Integrate with business intelligence for smarter mission planning

With the ability to integrate with business intelligence (BI) tools like Cognos, IBM i2 Enterprise Insight Analysis improves the efficiency and effectiveness of mission planning, empowering decision makers to make smarter decisions. The efficient allocation of time and resource where they will have the greatest impact is critical to mission success, helping law enforcement organizations focus on the locations, people, and criminal networks that are most critical.

Scalable for mission agility and flexibility

IBM i2 Enterprise Insight Analysis scales across the investigative, operational and cyber environments. In intelligence and crime operations, change is constant. IBM i2 Enterprise Insight Analysis supports the enterprise all the way from a single deployed user through an agency-wide system that is connected to multiple data sources and used by many analysts. This scalability provides a level of continuity for those who use these tools and eases the training burden that often accompanies personnel changes.

Modular and extensible for future expansion

The modular architecture of IBM i2 Enterprise Insight Analysis provides flexibility. It can be *fit for purpose* by deploying only the required components and then augmenting with additional complementary analytic tools as needed. For example, users can capitalize on the interoperability with GIS providers such as Esri, and incorporate advanced geospatial features, including three-dimensional mapping. Combine that with other built-in features, such as sub-second temporal analysis, social network analysis and heat matrix capabilities for advanced analytics that turn big data into usable crime-fighting intelligence.

Interoperable for improved compatibility

IBM i2 Enterprise Insight Analysis integrates with existing infrastructure and third-party systems from advanced GIS tools to crime mapping, social and demographic analysis. It also eases dissemination and information-sharing by helping to streamline operations with partner organizations. Finally, it supports operational interoperability by enabling geospatial and operational crime and intelligence analysts to collaborate.

A cost-effective solution that empowers users to more effectively gain actionable intelligence to help fight crime

- Integrates with and leverages current infrastructures, systems and data
- Minimizes the need for technical development support with out-of-the-box analytics
- Provides a flexible and scalable solution that can be easily extended with third-party and IBM applications to meet growing and changing needs

Summary

With IBM i2 Enterprise Insight Analysis for law enforcement, you can:

- Improve crime management and investigations throughout your operational community through

the security-rich environment designed to help you analyze human, event, geospatial, temporal and social network elements within your data sets as well as third-party data sources.

- Make smarter investigative decisions with near real-time analysis by quickly uncovering the hidden connections buried in terabytes of data with the help of automated and assisted analytics including multidimensional visual analytics.
- Support and augment your existing infrastructure with a flexible, scalable and interoperable solution that gives you the freedom to implement the right features and functions at the right time to meet the changing needs of multiple criminal investigative environments.
- Manage budget realities with a modular, scalable solution design that helps reduce training, maintenance and deployment costs.

Why IBM?

The IBM i2 Enterprise Insight Analysis solution is the result of more than 25 years of IBM experience with more than 4,000 organizations. This collaboration helps ensure that this solution continues to be *fit for purpose*, which can help agencies achieve their investigative and intelligence missions.

- One constabulary improved collaboration and decision making, which helped lead to a 13 percent reduction in crime and a 10 percent increase in detections. They improved the development of intelligence packages by outlining timeline progressions, cause and effect, and criminal network weaknesses and strengths.
- A major metropolitan police force fused over 25 data sources to improve the speed and precision of identity resolution. The alerting capability keeps analysts up-to-date on persons of interest in near real time.

Today, IBM i2 Enterprise Insight Analysis is one of the analytical tools of choice for law-enforcement agencies. It is used around the world to analyze, process, integrate and disseminate all source data. The IBM i2 Enterprise Insight Analysis solution is among the industry leaders in the exchange of intelligence between law-enforcement agencies and their partners.

For more information

To learn more about investigative analysis and IBM i2 Enterprise Insight Analysis for law enforcement, visit

ibm.com/security/intelligence-analysis.

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