IBM i2 Enterprise Insight Analysis

Accelerate the data-to-decision process by rapidly transforming data into actionable insight

Highlights

- Uncover hidden connections and insights across massive data sets, quickly

- Provide automated and assisted analytics for near-real time results and timely, smart decisions

- Accelerate investigations by uncovering what is unknown

- Close decision gaps and support collaboration with operational interoperability and information sharing

- Leverage and enhance capabilities of existing infrastructure, investments and data

Introduction

Whether they are part of a business or working for a government organization, today's investigators, security specialists and intelligence analysts are facing extraordinary pressure to respond quickly to a wide range of threats—from cyber-attacks, terrorist threats, criminality, and unethical and immoral activities. These attacks are especially challenging as societies are increasing their reliance on cyberspace for economic growth, societal well-being, government operations and critical infrastructure monitoring and management.

This need for real time response is driving a revolution in the data-to-decision (D2D) process. In order for organizations to turn massive data sets into actionable intelligence and insights that can inform decisions, they need to apply reason, analysis and advanced analytics over the entire corpus of available data. This means organizations need to exploit data from a variety of sources at large scale, and in a range of formats; both structured and unstructured. The practical implication of performing advanced analytics across large, disparate data sets, however, is that your investigators and analysts have access to more data than they can process in a timely fashion.

An integration of IBM's quality big data and advanced analytics capabilities

Automated data and advanced analytics engine

IBM i2 Enterprise Insight Analysis integrates seamlessly with IBM's big data solutions providing users with critical reliability, scalability and outstanding performance. These systems are designed to handle more than 1,000 concurrent operational queries with continuous ingest. Continuous data ingest enables loading of data dispersed across multiple silos at the same time. This minimizes the latency created by batch loading data on infrequent schedules simultaneously to support real-time mission analysis and decision making on the latest operational data.

Industry leading multidimensional intelligence analysis

Developed and engineered with over 20 years of analyst input, IBM i2 Enterprise Insight Analysis delivers a powerful multidimensional visual analysis environment that helps users simplify complex networks, and detect non-obvious relationships and patterns. For customers who need identity resolution and to understand non-obvious relationships the i2 Enterprise Insight Analysis Recommendation Engine Add-On provides "assisted analysis" by reconciling duplicate entities masked by aliases and enables users to set alerts to always track new and critical information.

A cost-effective solution that supports operational effectiveness

- Integrate with and leverage current infrastructures, systems and data
- Minimize the need for developer side support with commercial off-the-shelf (COTS) design
- Improve operational and situational awareness with dashboard and key performance indicators (KPIs)
- Uncover non-obvious relationships with multi-dimensional visual analytics
- Flexible and agile design can be easily extended with third party and IBM applications to meet changing needs
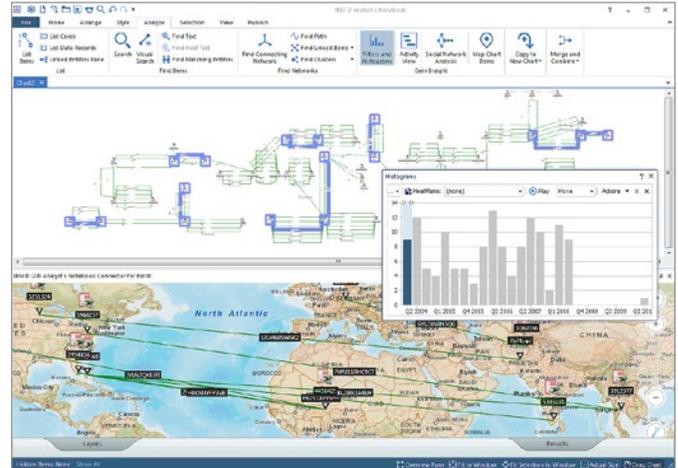

Figure 1: IBM i2 Enterprise Insight Analysis offers a rich intelligence production environment designed to deliver advanced multidimensional analysis capabilities.

Use cases and applications

IBM i2 Enterprise Insight Analysis can help organizations from a variety of industries investigate criminal activity, such as:

- Commercial environments:
  - Banking
  - Insurance
  - Telecommunications
  - Retail
  - Energy and utilities
  - Manufacturing
- Government environments:
  - National security and defense
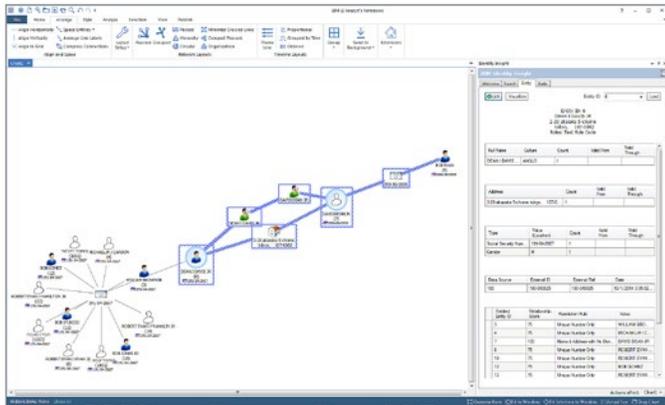 - Environmental protection

Figure 2: IBM i2 Enterprise Insight Analysis features an optional recommen-
dation engine add-on that automatically collapses duplicate entities and
helps find connections between entities, even when they are separated by
several degrees.

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.
- Uncover non-obvious relationships by applying multi-dimensional visual analytics.
- Uncover temporal, network hierarchies and critical geospatial insights.

Uncover hidden patterns and relationships in data by performing advanced analytics, at scale and at speed

Many solutions claim to handle big data, but can they rapidly turn that data into insight? IBM i2 Enterprise Insight Analysis is designed to let the analyst focus on analysis, while it runs automated analytics in the background across hundreds of terabytes of data to provide near-real time results in seconds and accelerate the D2D process.

The i2 Enterprise Insight Analysis Recommendation Engine Add-On — alerts analysts when new information is available and when data points are altered, strengthened or resolved. This enables analysts and investigators to quickly determine when multiple identities are the same. In addition, proactive alerts call out when matches arise among otherwise seemingly hidden connections to help highlight non-obvious relations.

Apply multi-dimensional analytics across trillions of records and get results in near real time — data can be displayed as association, temporal, spatial, statistical, and spreadsheet views. These multiple views help to give a wider understanding of all the important who, why, what, when, and where aspects. The ability to apply a variety of visual analysis techniques at once helps reduce the time needed to test different hypotheses and enables the analyst to quickly analyze complex data sets with the ability to create multiple analysis views on the data that is of interest.

- Quickly highlight key individuals and relationships and their connections to key events with core link analysis capabilities.
- Understand the critical timeline of events or patterns within criminal and adversarial actor activities with powerful temporal analysis tools.
- Gain better insight and understanding of the structure, hierarchy and 'modus-operandi' of complex networks with integrated multi-dimensional Social Network Analysis tools.
- Combine association, temporal and geospatial aspects of data for a complete situational awareness visualization.
- Run parallel complex queries across hundreds of terabytes of data. These results, in many cases returned within seconds, can highlight connections and non-obvious relations across a variety of entity types, and over multiple degrees of separation. This is critical to uncover hidden relationships in massive data sets.

Supports technical and operational interoperability

IBM i2 Enterprise Insight Analysis is specifically designed to provide organizations with technical and operational interoperability. This helps take advantage of investments in current systems and increase operational efficiency and effectiveness across the various analyst domains and with partnering agencies.

Operational. Whether or not your operational team collaborates across organizational or geographical boundaries, IBM i2 Enterprise Insight Analysis can help close gaps in your operational efficiency with information sharing. Its security-rich platform enables 'need-to-know' information sharing, within the organization, across departments, and with other organizations and constituents who play a role in the investigations. With more than 4,500 organizations currently utilizing IBM Intelligence and Insights systems globally, collaboration and information sharing with i2 Enterprise Insight Analysis raises operational interoperability.

Technical. IBM i2 Enterprise Insight Analysis integrates with existing infrastructure as well as other third party solutions and data sources. For instance, Esri GIS integration enables users to leverage advanced GIS capabilities, such as digital terrain elevation data (DTED) and line-of-sight analysis. In addition, the Esri technical interoperability promotes cooperation between traditionally siloed geospatial and operational intelligence analysts, acting as a force multiplier to increase both effectiveness and efficiency of operations and the operational team.

As more data is available from additional internal and external sources, analysts can benefit from open standard-based SQL access to data to help customers integrate those solutions and data sources with organizations' existing systems. In addition, open source data connectors are provided so users can customize and integrate with third-party data.

Increase efficiency

- Consolidate massive data sets with a constant automated identity resolution engine with the Recommendation Engine Add-On
- Search, process and analyze unstructured data via IBM Watson and/or 3rd party add-ons
- Per form link, temporal and geo-spatial queries and run network analytics across hundreds of terabytes of data in seconds

A scalable, extensible and modular design

IBM i2 Enterprise Insight Analysis is designed to scale with organization's needs and challenges and support the needs of the enterprise all the way down to a single user. The extensible modular design provides agility to respond to evolving threats and operational focus with the addition of complementary advanced analytics, other IBM solutions and integration with existing systems and third-party solutions and applications.

Organizations can choose from a host of complementary advanced analytics which enable system customization and support a wide array of analytic requirements at the tactical, operational and strategic levels.

- **Sift through massive amounts of unstructured data:** powered by IBM Watson, powerful information access, content analytics, and cognitive computing capabilities help analysts search and discover critical information hidden within mixed formats in different systems.
- **Operational dashboard:** improve operational and situational awareness with dashboard and KPIs that monitor operational activity and performance at the staff and operational levels.
- **Mobility:** improve access to information and intelligence in the field by presenting a subset of core capabilities through an on-demand thin client.
- **Engineered agility:** a flexible and agile design provides the ability to customize and create tailored analytics specific to an organization's unique needs. This built-in agility helps organizations to respond to rapidly evolving threats and operational needs.
- **Analyze data in motion:** streams processing provides sub-millisecond response times from data in-motion analytics, enabling you to view information and events as they unfold. Streams integrates with existing applications, and supports both structured and unstructured data sources.

Cost effective

The scalability, modularity and interoperability all result in a very cost-effective solution that reduces the training, maintenance and deployment costs. This solution is designed to enable organizations to be self-sufficient, to minimize the need for onsite support and in many cases eliminates, long-term support contracts and deployed developer engineers.

Why IBM?

The integration of the IBM i2 intelligence analysis capabilities with big data and advanced analytics from IBM creates a unique solution that goes beyond handling big data. It, empowers analysts and organizations with the ability to apply advanced analytics at speed and scale. Consider what IBM has to offer from predictive to cognitive technologies and the unlimited possibilities that arise when those capabilities are integrated in IBM i2 Enterprise Insight Analysis.

For more information

To learn more about the IBM i2 Enterprise Insight Analysis offering, please contact your IBM representative or IBM Business Partner, or visit ibm.biz/IBMi2EIA