IBM i2 Enterprise Insight Analysis for Defense Intelligence

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

Executive summary
As national security and defense threats become more asymmetrical and complex, intelligence organizations and agencies are challenged to respond more efficiently and precisely. With shrinking budgets and limited resources, these agencies need a solution that can help them accelerate the data-to-decision process, so they can make better-informed decisions and take confident, effective action. IBM® i2® Enterprise Insight Analysis is a next-generation intelligence solution designed to help do just that by applying advanced analytics at scale and with critical speed.

A scalable, modular and interoperable design helps control the total cost of ownership.

The intelligent solution for national security and defense intelligence agencies
The intelligent solution for national security and defense intelligence agencies is an enterprise-friendly information exploitation solution. It provides extensive data acquisition and multifaceted analysis capabilities that can scale across hundreds of terabytes of data and provide results in near-real time. This can help organizations develop a clear, common intelligence picture that can be securely shared in and among a variety of organizations and coalition partners (Figure 1).
Users have access through a connector to an advanced GIS analysis solution which offers three-dimensional capabilities such as line of sight and digital terrain elevation data (DTED).

These organizations can be local, national or transnational, thereby improving situational awareness, effectiveness and bridging operational knowledge gaps.

IBM i2 Enterprise Insight Analysis available in two versions to support mission and operational flexibility:

1. **Advanced edition** — The advanced edition is for customers with trillions of records. It provides multifaceted analytics and data acquisition tools that can be tailored for all levels of the enterprise, enabling multidimensional intelligence analysis production across hundreds of terabytes of data at the strategic and tactical levels.

2. **Core edition** — The core edition is the foundation of Enterprise Insight Analysis. It provides many of the same capabilities as the advanced edition including multidimensional intelligence analysis, but for those with lower volumes of data and fewer users and analysts.

**Turning big data into an actionable intelligence**

Have terabytes or even petabytes of data to analyze? Ingesting billions of records per day? Need to execute complex analytics across the entire data set? Have a need for speed? With its scalable, extensible design, IBM i2 Enterprise Insight Analysis can help organizations overcome information overload and perform intelligence analysis and analytics — at scale and with critical speed.

Figure 2: A thin client provides a subset of core capabilities that enable members of the greater operational team to access data views and relationships on demand and in the field.
IBM i2 Enterprise Insight Analysis

IBM i2 Enterprise Insight Analysis supports a range of national security and defense operations and mission types:

- All source intelligence operations that support open source intelligence, signal intelligence, human intelligence, document and media exploitation and more
- Emerging and contingency operations
- Strategic intelligence analysis
- Cyber-intelligence operations
- Counter-intelligence
- Customs and border security
- Maritime and counter-piracy operations
- Civil-military cooperation
- Peacekeeping
- Humanitarian missions
- Counter-insurgency
- Counter-narcotics operations

Cyber intelligence

Future large-scale conflicts might include a combination of traditional and nontraditional warfare. Offensive and defensive military operations will likely occur not only in physical, but also virtual, domains. Military forces must identify and exploit enemy vulnerabilities in cyberspace, while target-hardening their own system vulnerabilities. They must also be able to defend critical infrastructure, such as power grids, from cyber or physical attack.

Cyber intelligence is a necessary, critical step to protecting infrastructure, as well as making smart, effective and offensive cyber-security decisions. IBM i2 Enterprise Insight Analysis has fine-grained analytical capabilities, such as the ability to uncover temporal activities down to the millisecond, data-on-demand connectors that support near real-time analysis, advanced GIS and data layering techniques. It is designed to help organizations turn large quantities of disparate data into a comprehensive intelligence picture, which applies equally to cyber intelligence. The advanced analytics that can be applied at scale and speed, combined with an interoperable and flexible design make IBM i2 Enterprise Insight Analysis a cost-effective solution for protecting critical infrastructure from internal and external threats.

Customs and border intelligence

Immigrations and border agencies monitor the movement of people across their borders. In some cases, their focus may be to uncover and disrupt potential terrorist activities or to disrupt criminal rings using fake or fraudulently obtained documentation, such as visas. To do this effectively, these agencies need a solution that helps them share information and collaborate with international partners.

IBM i2 Enterprise Insight Analysis has helped immigration agencies exchange information with their international partners by enabling them to ‘push out’ intelligence and information in the form of clear briefing charts. They are also able to better gather and use the information their international partners send to them, by incorporating it directly into their intelligence repository. The ability to share and exchange information helps them create stronger intelligence and better monitor activity across their borders.
Mission value
Every organization must control costs. Carefully weigh the advantage of a low purchase price over a better return on investment over the long term. Controlling costs involves more than finding the lowest price for the first year. What is the impact of unforeseen changes? How costly is future expansion? How well does the solution work with existing systems? The real value of IBM i2 Enterprise Insight Analysis is readily apparent when you evaluate the overall total cost of ownership. The IBM i2 solution is scalable, modular and interoperable—three characteristics that reveal its exceptional value.

Scalable: To help provide mission agility and flexibility
IBM i2 Enterprise Insight Analysis scales across the mission, operational and user environments. In intelligence operations, change is constant. One year after the purchase, you can be sure people, systems or circumstances will be different than today. IBM i2 Enterprise Insight Analysis supports the enterprise all the way to a single, deployed user. This scalability provides a level of continuity for those who use these tools, while it eases the training burden that often accompanies frequent personnel rotations.

Modular and extensible: To help with future expansion and maximum mission flexibility
IBM i2 Enterprise Insight Analysis has a modular architecture that provides mission flexibility. It can be “fit for purpose” by deploying only the required components or by augmenting it 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 turns big data into usable intelligence. The one certainty is the need to cope with a quickly changing future and the ability to afford any changes.

Interoperable: To help ease incompatibility issues
IBM i2 Enterprise Insight Analysis integrates with existing infrastructure and third-party systems such as advanced GIS to take advantage of digital terrain elevation data and line-of-sight analysis. It also eases dissemination and information sharing by helping streamline operations with partner or coalition organizations. Finally, it supports operational interoperability by enabling geospatial and operational intelligence analysts to collaborate.

A cost-effective solution that supports operational effectiveness
• Integrate with and leverage current infrastructures, systems and data.
• COTS design minimizes need for developer-side support.
• Improve operational and situational awareness with dashboard and KPIs.
• Uncover non-obvious relationships by applying multidimensional visual analytics.
• Flexible and agile design can be easily extended with third party and IBM applications to meet changing needs.
By incorporating additional advanced analytic capabilities, users can explore, visualize and quickly cull massive data sets down to manageable high-value subsets to further speed their analysis. Powered by an expert integrated data system designed to handle more than 1,000 concurrent operational queries with continuous ingest, it delivers mission-critical reliability and scalability with outstanding performance.

The continuous data ingest feature enables loading data across multiple threads at the same time, to get the data in very quickly. This minimizes the latency created by batch-loading data on infrequent schedules at the same time, supporting real-time mission analysis and decision making on the latest operational data during the loading process.

A recommendation engine 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 — all 24x7. The open architecture also provides users with the agility to customize and create their own analytics to support mission-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 is an intelligence-rich resource.

IBM i2 Enterprise Insight Analysis features
- Scalability and interoperability by design
- Advanced GIS capabilities, such as three-dimensional mapping, entity, relationship and temporal resolution that can be accessed through a connector
- Temporal visualization down to the sub-second level
- Social network analysis algorithms that dissect group interactions and identify key players
- Social engineering and data layering
- Heat matrix for ‘pattern of life’ analysis
- Advanced data management and analysis including visual query and merging
- Flexible and extensive data acquisition framework
- Data provenance and data traceability
- Familiar intelligence chart briefing format used by national security and defense organizations around the globe

Solution benefits
IBM i2 Enterprise Insight Analysis provides a number of benefits and capabilities to help you take decisive action based on facts.

Providing a clear intelligence picture that spans organizations
IBM i2 Enterprise Insight Analysis supports multinational intelligence sharing and collaboration between rotating units and among coalition partners that span theaters. It also enables the exchange of information with non-military organizations involved in countering insurgency and terrorism. This includes local, national and international law enforcement agencies, along with other governmental and transnational organizations.

Increase Efficiency
- Consolidate massive data sets with a 24x7 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.
Generating intelligence quickly
During live operations, 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 that are designed to help military 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, while providing results within seconds.

By reducing the time spent on data processing, analysts can focus their efforts on uncovering patterns and connections, which ultimately enables them to develop smarter, tactical and strategic reports more quickly.

Integrating and analyzing unconnected sets of information
Intelligence analysts must often interpret large amounts of data from multiple sources, such as situation reports, spot reports and open source information, which IBM i2 Enterprise Insight Analysis can help capture, process and integrate. 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.

Helping ensure mission continuity
As units rotate in theater, valuable information and insight might be overlooked or even lost because of different approaches to managing information. New intelligence databases might be created with different schemas and limited security access. Therefore, intelligence gained might not always be transferred to the incoming unit. A command’s ability to combine historical information with current information can be affected, which can limit the contextual understanding of operational situations.

IBM i2 Enterprise Insight Analysis is an analysis platform where the robust repository can remain in place when one unit leaves and another begins its deployment. Intelligence charts can also be saved in the repository, as enhancements to the stored and collected intelligence. You can use predefined and custom-built templates to quickly populate the intelligence repository. This repository can be searched with either simple search or the visual query can be used for more complex queries.

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.
**Benefits summary**

- Improved situational awareness throughout your operational community. A sophisticated and security-rich environment layers and analyzes human, event, geospatial, temporal and social network elements on existing or third-party data.
- Smarter decision-making with near real-time analysis. Uncover hidden connections buried in terabytes of data, within seconds, with the help of automated and assisted analytics, multidimensional visual analytics and near real-time results.
- Interoperability, scalability and flexibility. Its design supports and augments existing infrastructures and investments, while offering the freedom to roll out features and functions to meet the needs of multiple operating, mission and user environments.
- Cost-effective design. The modular, scalable and interoperable nature of this solution helps reduce training, maintenance and deployment costs.
- Shorter learning curve. A subset of common visual analysis and data management tools and an intuitive, lightweight web interface enable shorter training times.

**Why IBM?**

IBM i2 Enterprise Insight Analysis is the result of two decades of IBM experience with more than 1,200 military organizations in 130 countries. This collaboration helps ensure that these solutions continue to be ‘fit for purpose,’ which can help agencies achieve their intelligence missions. Today, IBM i2 Enterprise Insight Analysis is one of the analytical tools of choice for national security and military intelligence personnel at home and in the field:

- In Afghanistan, 35 out of 50 countries involved in the International Security Assistance Force use IBM i2 intelligence solutions to help maximize the collection, analysis and dissemination of intelligence.
- In NATO, 25 of the 28 member countries use IBM i2 intelligence solutions to help equip front-line troops with the right information at the right time and in the right format.
- In the US, the intelligence community, Unified Combatant Commands, force protection and military law enforcement personnel use IBM i2 intelligence solutions.

The IBM i2 Enterprise Insight Analysis solution is used around the world to analyze, process, integrate and disseminate all source data. Today, the IBM i2 Enterprise Insight Analysis solution is among the industry leaders in the exchange of intelligence between defense and national security organizations.

**The bottom line is your bottom line**

The scalability, modularity and interoperability of IBM i2 Enterprise Insight Analysis result in a cost-effective solution that helps reduce long-term, training, maintenance and deployment costs. The perpetual license also means you do not have to consider additional charges at the end of a licensing term. You simply pay support and subscription fees.

IBM i2 Enterprise Insight Analysis is competitively priced in year one. The true costs savings become even more apparent after year one, when your total costs go down instead of up. Users can deploy a fit-for-purpose solution in the first year, avoiding hidden costs or surprise price increases. The upfront cost is the total cost.

**For more information**

To learn more about IBM i2 Enterprise Insight Analysis, contact your IBM representative, or visit:  
[ibm.com/i2software](http://ibm.com/i2software)

To learn more about all of the IBM Smarter Cities solutions, visit: [ibm.com/smartercities](http://ibm.com/smartercities)