IBM i2 Enterprise Insight Analysis for Defense Intelligence

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

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**Executive summary**

As national security and defense threats become more complex, intelligence organizations and agencies are challenged to respond more efficiently and precisely. This challenge is compounded by limited resources, evolving missions and a dynamic landscape. Intelligence organizations need a solution that will help them accelerate the data-to-decision (D2D) process and scale their resource and data needs. IBM® i2® Enterprise Insight Analysis is a new intelligence solution that does just that. It's interoperable, open and modular design enhances existing infrastructure and investments. It aids individual analysts as well as enterprise teams with multi-dimensional visual analysis and advanced analytics to create mission critical intelligence in near-real time.

**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. Supporting teams of all sizes, 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).
These organizations can be local, national or transnational, to improve situational awareness, effectiveness and bridge operational knowledge gaps.

**Turns big data into an actionable intelligence**

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.

**IBM i2 Enterprise Insight Analysis**

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

- 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

*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).

*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.
Cyber intelligence is a necessary, critical step to protect infrastructure, and make smart, effective and offensive cyber-security decisions. IBM i2 Enterprise Insight Analysis has fine-grained analytical capabilities: the ability to uncover temporal activities to the millisecond, D2D connectors that support near real-time analysis, and 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 applied at scale and speed 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 helps immigration agencies exchange information with their international partners to enable them to ‘push out’ intelligence and information in the form of clear briefing charts. They are then 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.

**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.

Figure 3: Multifaceted analytics and data acquisition tools help intelligence analysts get a clear, comprehensive picture that can help your organization make smarter decisions.
Mission value
Organizations must control costs. They must 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? You can see the value of IBM i2 Enterprise Insight Analysis 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 to operational security.

Scalable: helps provide mission agility and flexibility
IBM i2 Enterprise Insight Analysis scales across the mission, operational and user environments. In intelligence operations, change is constant. People, systems and circumstances can change one year after purchase. 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, and eases the training burden that often accompanies frequent personnel rotations.

Modular and extensible: helps with future expansion and maximum mission flexibility
IBM i2 Enterprise Insight Analysis’ modular architecture 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.

Interoperable: Helps 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 to 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

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. In addition, 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.
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.

The 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 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’s an intelligence-rich resource.

**IBM i2 Enterprise Insight Analysis features**

- Scalable and interoperable 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 layers
- 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 benefits and capabilities to help you take decisive action based on facts.

**Provides 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.

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**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

**Generates 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 designed to help military analysts process data more quickly. These assisted and automated analytics perform entity resolution against massive data sets and offering the ability to run multidimensional analytics and advanced queries across hundreds of terabytes of data, providing results within seconds.
With reduced time spent on data processing, analysts can focus their efforts on uncovering patterns and connections, which enables them to develop smarter, tactical and strategic reports more quickly.

**Helps 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 multidimensional visual analytics
- Uncover temporal, network hierarchies and critical geospatial insights

*Figure 4:* Users can combine a variety of social network algorithms to uncover network nuances, key individuals and other insights.

**Integrates and analyzes 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.
Benefits summary

- Improve 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.
- Make smarter decisions with near real-time analysis. Quickly uncover hidden connections buried in terabytes of data with the help of automated and assisted analytics, multidimensional visual analytics and near real-time results.
- Support and augment existing infrastructure with interoperability, scalability, and flexibility. Get the freedom to roll out features and functions to meet the needs of multiple operating, mission and user environments.
- Reduce training, maintenance and deployment costs with a modular, scalable, cost-effective design.
- Enable shorter training times with an intuitive lightweight web interface.

Why IBM?

IBM i2 Enterprise Insight Analysis is the result of more than 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 results in a cost-effective solution that helps reduce long-term, training, maintenance and deployment costs. And with the perpetual license, 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. Users can deploy a fit-for-purpose solution in the first year, avoiding hidden costs or surprise price increases.

For more information

To learn more about IBM i2 Enterprise Insight Analysis, contact your IBM representative, or visit: ibm.biz/IBMi2EIA

To learn more about all of the IBM Safer Planet Portfolio, visit: ibm.com/i2software