White paper
Operational intelligence with IBM i2 Enterprise Insight Analysis

Proactive intelligence makes sense. In partnership with IBM, Fujitsu Australia's Operational Intelligence team, offer a range of solutions to solve proactive intelligence problems.

Fujitsu Australia and operational intelligence

Fujitsu Australia's operational intelligence team is leading the way in delivering operational intelligence solutions within Federal and State government agencies. Fujitsu has partnered with a number of major vendors in order to delivery customer requirements, including IBM i2 and Palantir Technologies. Whether it is the initial design, implementation, support or user training, Fujitsu is able to provide you a solution.

Introduction

The purpose of Operational Intelligence is to collect, process and analyze relevant data and identify situations that could result in an opportunity or threat to an organisation or entity. In a world plagued by criminals, fraud, terrorism and insider threat the requirement for effective operational intelligence within an organisation is a must. With new and arising technologies, the way intelligence is collected analyzed and processed is changing. The requirement for prevention of crime as opposed to solving it is becoming the norm as organisations start to realize the return of investment is much greater when real time, operational intelligence is utilised.

Data to Decision

The problems faced by modern intelligence analysts, security specialists and investigators include extreme time pressures to respond quickly to a wide range of threats in cyber-crime, terrorism, insider threat and unethical or immoral activities. As society and industry rely more heavily on cyberspace for economic growth, social interaction, operations on a national and international level and critical infrastructure monitoring, they rely further on protection from their intelligence products and analysts. The attacks from the former threats create a huge burden on organisations to either react rapidly, almost in real time, to prevent losses and damages or take these losses.

The revolution of data-to-decision is upon us. The act of creating actionable intelligence from massive disparate unstructured and structured data sets is required more often than not.
However, analysts and investigators require access to this data in a timely fashion; they require the tools to collate this information through logical reasoning, informed decisions and advanced analytics, their end goal being creating some form of actionable intelligence.

Reactive versus Proactive Intelligence

The accepted intelligence process as it currently stands involves post event investigation and following this, a reaction to the investigation results.

This reactive approach isn't effective, shouldn't we be trying to prevent the event happening? Isn't that what intelligence is about? It seems quite a strange way of doing things so why does this happen?

The tools used in the past for intelligence couldn't process the massive amounts of data in real time so the analyst couldn't make decisions quick enough to prevent any given event. The systems didn't run advanced analytics over the data as it was ingested and then suggest logical unobvious approaches to the analyst who was eyeing the data.

We have the technology and thought process to put this in place now. This will allow a proactive approach to analysis, a way to look at trends in data and act on them proactively. A proactive approach is at the core of operational intelligence and using advanced analytics, smart workflows and the correct tools can allow analysts to prevent rather than react while at the same time building a knowledge base to refine the analyst's decision making.

An example

The influx of recent cyber-attacks shows us that not only does an attack cause revenue loss but a long term loss with business relationships, customer trust and hence momentum in a multitude of competitive markets. Whether the former attacks were carried out by a government, a hacking group or a disgruntled employee is irrelevant. An effective proactive approach to operational intelligence could have prevented the attacks and in turn provided a return of investment for the affected organisation.

IBM Enterprise Insight Analysis

With the base principles of Operational Intelligence in mind, IBM have designed an integration of their best big data and advanced analytical capabilities to produce Enterprise Insight Analysis (EIA).

EIA is a highly customizable and scalable technology stack, fronted by the well know Analyst Notebook and the new web interface Intelligence Analyst Portal (IAP). EIA offers multiple ways to interface with the near real time data being fetched on the fly from third party systems or continuously ingested into the EIA store. From the smallest of businesses to large scale corporations, Fujitsu Australia's Operational Intelligence team in partnership with IBM can design a solution to match your organisations requirements. With a completely pluggable framework, allowing use of just the base system or any variant of add-ons the EIA system can suit a range of requirements within operational intelligence. Let's discuss some of the features of EIA and also the add-ons that may fulfill some common use cases.

Interoperability

The EIA was specifically designed to provide organisations with a high level of both technical and operational interoperability. 4500 organisations currently utilize the IBM intelligence or insight technologies globally, hence operationally, the EIA suite raises inoperability to an unprecedented level. Technically EIA has a strong integration with Esri geospatial products which promotes a strong relationship between geospatial and information based intelligence. EIA integrates with existing infrastructure and third party systems and data sources, whether you want to ingest all the data from a source or just search it on the fly, simple integration points within the product allow for multiple types of data ETL integrations.

Identity Insight

Filtering over trillions of records to find information on any given entity can be a daunting task, even for the most experienced analyst, let alone making any actionable intelligence from all the disparate data. The Identity Insight system provides 24x7, complete customizable, automation for complex data resolution. This is achieved through probabilistic entity matching, complex related event matching and entity relationship matching. This add-on allows for constant value adding to your intelligence without the hand of an analyst in the mix, providing great efficiencies to the analytical workflow. Automated alerts and feeds inform the end user of any changes to entities of interest. Joining entities by several degrees of separation is a difficult manual process, but with the help of the Identity Insight this can be done within minutes.

Recommendation Engine

What happens when an analyst hits a dead end on an investigation? Where do they go next? Usually this means the case goes cold, there is nowhere else to turn until more obvious links or information are received. The recommendation engine performs complex analytics on your data store and finds unobvious relationships to push the analyst in the right direction.

Analyst Notebook(ANB) and Intelligence Analyst Portal(IAP)

ANB is the benchmark product for intelligence visualization. Many industry training courses teach ANB as a standard to analysts and its longevity in the industry proves it has an important place. IAP is the new web interface for EIA. It allows users to quickly search, visualize and edit intelligence through a portable web interface. Both IAP and ANB are completely customizable by the system integrator. Notable integrations include IBM iBase and fetching data on demand from various sources.

ANB provides a deeper analytical capability that uses a thick client whereas IAP gives managers a quick lookup interface and users in the field a portable interface with EIA.

PureData for Operational Analytics(PDOA)

For bigger corporations where performance and time critical data retrieval is of the utmost importance, the PDOA appliance can be plugged in as an appliance for the EIA suite. The PDOA appliance is a purpose built server for the EIA suite that can perform queries over huge scales of data. It is standard to perform 1000+ temporal, entity and geospatial type searches over trillions of records and have results in seconds. Various sizes are available to suit the requirement of the owning organisation with up to a Petabyte of data storage available.

Conclusion

The intelligence world is ever changing and new, more complex threats are pushing the organisations towards a proactive intelligence approach to avoid major losses and/or damages. Fujitsu Australia's operational intelligence team partnered with IBM provide a high end, operational intelligence capability that can be scaled from small business to large corporations. From initial requirements through to system end of life support and training, Fujitsu Australia has a solution.

Operational Intelligence Services

Fujitsu's Operational Intelligence Team is able to support our customers by using our experience in delivering systems Australia wide, and delivering the following services:

Analysis and Design
- Business Analysis
- Solution Architecture
- System Analysis
- Technical design
- Documentation
- Analyst training
- System testing

System Support
- On-going support of the production system.
- Out of hours support.

Development
- Palantir integration and development.
- IBM i2 integration and development.
- Java / J2EE
- Database design and development.
- Hadoop / NoSQL
- Bespoke development.

As well as, software licencing, consulting, programme and project management.

Contact us

For additional information, please contact
Operational.Intelligence@au.fujitsu.com