



Insight - Vision

Bringing Clarity to your Supply-Chain Decisions

Supply-Chain Software

Software vendors often market their applications using a wide array of buzzwords and acronyms. Even in a relatively focused area such as Supply Chain Management (SCM), there are literally dozens of terms used to describe an application without really helping a potential customer understand what it does. BI, SOA, SCEM, SCPM (not to be confused with SCpM), EDM, OBI, BAM – the list goes on and on with most terms having multiple conflicting definitions that usually correlate closely with the product that is being sold. The purpose of this document is to first ignore all of the acronyms and explain as clearly as possible what Blue Sky's Insight application does and what it will do in the future. Then, we will revisit the acronyms to provide useful definitions and honestly state where Insight fits and where it doesn't.

The following sentence describes the mission of the Insight application:

Insight collects the raw data produced by your supply chain, transforms it into useful information, routes it to the people who need it, and presents it in a format that can be immediately understood so that specific objectives can be effectively achieved.

Let's dig a little deeper in to the key parts of that definition, without resorting to buzzwords, to explain the functionality in more detail:

Collecting Raw Data

A typical supply chain, which really means the people and applications that run it, generates millions of pieces of data every day. This raw data consists of predictions (a truck is scheduled to arrive at a door), states (there are x units on hand), and events (an order was received), often 10 or more for each item that's moved during the day. If all of the raw data ended up in one place, in a consistent format, the data collection part of Insight would be trivial. But with different applications storing data in different formats at different levels of granularity, a key component of Insight must be to collect the data in such a way that the rest of the application does not have to be concerned with where it came from or what condition it was in.

Insight accomplishes this data collection via software components that we call *Adapters*. An *Adapter* is simply a module that reads data from a specific data source, and converts it into a format that the rest of the Insight application can use. Adapters often use SQL to read data directly from relational databases, because that allows the data to be collected in virtual real-time. However, there are times when it is not possible to access the database directly, in which case *Adapters* will use messaging, batch files, web services, or any other data collection method.

In addition to using a specific communications protocol, such as SQL or web services, an *Adapter* also contains knowledge of the application that generated the data. For example, both an SSA WMS Adapter and a Manugistics Demand Planning Adapter may use SQL to retrieve the data but each is written specifically to understand a single application, often even a specific version of an application. This allows new *Adapters* to be created as new applications are encountered and prevents Insight from being tied to any one vendor or version.

All of this may sound complicated, and it can be. However, the good news is that the only people that have to worry about these are the people who write them, either our functional specialists at Blue Sky, or your supply-chain application vendors themselves. Even if you have in-house applications that need *Adapters*, we'll work with you to design and build them – and your end-users will never even notice them.

Transforming Data into Information

Raw data is critical to the functioning of supply chain applications, but not as useful to an actual person. A commonly heard story tells of a manager or executive being handed a 10 inch stack of green bar paper and immediately ripping of the last page that contains the summary and throwing the rest of the report away. Before raw data can be useful, it must be transformed into information. This transformation may be as simple as taking an average or total of a list of numbers, but often a lot more work is needed to get information that will really add value. Insight doesn't just perform basic math on raw data; it contains business logic to analyze the data and determine what is important. Often, the information presented by Insight comes from multiple data sources and could not previously have been obtained without human intervention.

Insight uses small, simple modules called Instruments to transform data into information. Each Instrument contains business logic about a particular supply chain process. It reads data from one or more Adapters and processes it to distill the useful information from it, using anything from simple math, to comparisons between multiple data sources, or complex algorithms. Because the Adapters hide underlying complexity, Instruments can be used across virtually any application that contains the required data in almost any format.

As one example, an Insight customer had two applications that both contained inventory counts. When the two systems became out of sync, it was a monumental task to find out where the discrepancies were. With Insight, the Adapters to the two systems hid the underlying details so that writing the Instrument to find the differences became trivial. If a third system containing the same inventory information is introduced in the future, the same Instrument will be able to compare the inventory between any combinations of the systems, without being changed.

Routing Information

Raw data is useful to applications; information distilled from that raw data is useful to people. However, the information about a supply chain can become outdated extremely quickly. It is critical to get that information to the person that needs it, when they need it. Several key aspects of Insight allow it to accomplish this.

Insight collects data using the most efficient method available. If at all possible, it does not wait for the data to be sent to it, but aggressively searches for and grabs the data it needs. We have already discussed how Insight Adapters use SQL to pull data directly from relational databases. That is usually the fastest way to get the data, but as other mechanisms become more efficient, Insight will be able to take advantage of them because of the loose coupling between its Adapters and its analysis engine. For example, Insight can access data via web services and if the application hosting the services can expose that data in near real-time, the Insight Adapter will be able to achieve performance close to that of direct database access.

Insight uses plugins, called Notifiers to send data to the person that needs it. A *Notifier* is a module that performs an action when a specific event occurs. There are built-in *Notifiers* to send information via e-mail, pager, and to the users web browser. Other *Notifiers* will be added to the base system and Insight provides the ability for customers or consultants to create their own as well. This will allow Insight to stay current with new communications technologies as they become available or practical and to integrate with most existing software alerting packages.

Presenting Information

Adapters read raw data from an application, hiding the underlying details; Instruments transform that data into useful information; and Notifiers route the information to the appropriate person. However, that information may still not be used effectively if it is not presented in a meaningful way. Information sent to a PDA will need to be displayed differently than information that is shown in a web browser, for example. Insight uses other plugins, called *Presenters*, to format information into the most appropriate view so that a user can immediately understand it and use it.

A *Presenter* is a module that obtains information from an Insight Instrument and formats it into the most appropriate visual display. This will often be a chart or a table, but there are no restrictions. Because these *Presenters* are plugins, new ones can be added to take advantage of advances in technology. Since people in different roles may need to see the same information in slightly different ways, Insight allows the user the flexibility to tailor the visual representation of the information to meet their individual needs.

The initial view of the information is usually designed to highlight a problem or opportunity. However, the details behind the initial view are often vital to determine the appropriate course of action. For example, an executive may see that an average is too high, but by drilling down to the next level, it becomes obvious which department is the cause. Insight provides drilldowns all the way down to the raw data to ensure that the root cause of any condition can be easily identified, without forcing the user to switch between different applications to achieve their goal.

Achieving Objectives

Insight provides value by transforming data into useful information and presenting it in meaningful ways to the right person. It takes an objective-driven approach by providing profiles that allow a person to view only the information they need to achieve a specific objective. A profile is typically based on a person's role within the organization. However, each company can be organized differently, so Insight allows profiles to be configured and extended. The philosophy of Insight is that a person should be able to see all the information they need to meet an objective on a single screen. As an example, an administrator may have set up profiles such as "Receiving Supervisor" and "Shipping Clerk," and a user may be given one or more of them. These will prefill their screen with new tabs containing the information most likely to be useful for them in their roles. Of course, once they have been set up, they can modify their screen to best suit their needs, adding and customizing sections to show them exactly what they require.

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Acronyms and Buzzwords

The following section analyzes various Supply Chain Management acronyms and buzzwords to explain where Insight fits.

BI – Business Intelligence

An interactive process for exploring and analyzing structured, domain specific information (often stored in data warehouses) to discern business trends or patterns, thereby deriving insights and drawing conclusions. The business intelligence process includes communicating findings and effecting change. Domains include customers, suppliers, products, services and competitors.

Insight falls into the business intelligence space; however, it specifically focuses on the supply chain aspect of a business. Many business intelligence tools are simply frameworks that require the customer to build reports before they add any value. Insight contains a library of Instruments that can provide value out of the box.

BPM – Business Performance Management

A general term describing a set of services and tools that provide for explicit process management, including process analysis, definition, execution, monitoring and administration. Ideally, BPM should include support for both human and application level interactions. The workflow market has been a significant source of BPM, although forms of BPM are now emerging from many other sources, such as collaborative applications, integration brokers, Web integration servers, development tools, rules engines and ecommerce offerings.

Like business intelligence, business performance management is an extremely broad term. Insight fits into this category in that it contains metrics designed to help a supply chain improve performance.

SCPM – Supply Chain Process Management

A real-time, proactive, extended supply chain solution that utilizes event alerts or Key Performance Indicator (KPI) alerts to help synchronize the supply chain. It is composed of two sub applications: Supply Chain Event Management (SCEM) and Supply Chain Performance Management (SCpM).

Supply Chain Process Management (SCPM) is used to identify and proactively resolve problems in real-time. An application monitors the extended supply chain and provides event alerts (for example, a shipment has not left the supplier within a preset time) and Key Performance Indicator (KPI) alerts (for example, fulfillment throughput in the Distribution Centers has fallen below a preset parameter) to help synchronize the supply chain.

Insight fits squarely into this category. Insight Adapters provide the real-time data access and its Alert Engine sends out notifications of relevant events. Insight Instruments can include KPI functionality.

SCpM – Supply Chain Performance Management

Supply chain performance management (SCpM) solutions include event management (SCEM) solutions, as well as longer term, key performance indicator (KPI) based reporting tools. They put out a range of information from real-time messages that an individual shipment needs to be expedited, to quarterly reports indicating a business process is chronically under performing. This information will lie fallow, and will not impact the organization, unless business processes are in place to ensure that the information drives action.

Again, this definition describes a large part of what Insight actually performs. Insight Instruments act as KPIs to display performance information.

EM/SCEM – Supply Chain Event Management

SCEM enables companies to respond to unplanned events on an exception basis. Examples of unplanned events include a carrier losing a shipment unexpected depletion of inventory at a key customer or receipt of an unexpectedly large order. The value proposition of SCEM is that enterprises can reduce costs and improve revenue and customer service when unplanned events are made visible in nearly real time to the responsible supply chain manager.

Insight includes event management; however, it goes beyond simple exception management. The goal of Insight is to prevent the exceptions from happening in the first place, rather than just responding to them. Insight contains Instruments that look for situations that could cause an exception in the future to allow a manager to take action. For example, in addition to Instruments that show out of stocks, Insight contains Instruments that show orders that are likely to produce out of stocks based on current inventory levels, and highlights those that are expecting inbound receipts.

EDM – Enterprise Decision Management

EDM refers to the application of rule based systems in conjunction with analytic models to automate, improve, and distribute decision making capabilities across an organization.

EDM extends business intelligence to actively take corrective action to solve a problem. Insight does not automatically initiate actions when it detects a problem. In future releases, Insight will propose solutions to various conditions and make it easier to access the systems that can enact the solutions, but human intervention will always be required.

SCIV – Supply Chain Inventory Visibility

A category of applications that allow enterprises to monitor and manage events across the supply chain to plan their activities more effectively and preempt problems. SCIV systems enable enterprises not only to track and trace inventory globally on a line item level, but also submit plans and receive alerts when events deviate from expectations. This visibility into orders and shipments on a real-time basis gives enterprises reliable advance knowledge of when goods will arrive.

By leveraging Adapters that access multiple data sources from all areas of the supply chain, Insight can achieve true inventory visibility.

Dashboard

An application or custom user interface that organizes and presents information in a way that is easy to read. The information may be integrated from multiple components into a unified display. A dashboard helps monitor individual, business unit and organizational performance and processes for a greater understanding of the business.

Insight includes dashboard functionality as one of the ways to provide information to the appropriate person in a meaningful way.

KPI – Key Performance Indicator

A high level measure of system output, traffic or other usage, simplified for gathering and review on a weekly, monthly or quarterly basis. Typical examples are bandwidth availability, transactions per second and calls per user. KPIs are often combined with cost measures (such as cost per transaction or cost per user) to build key system operating metrics.

A primary use of Insight Instruments is as KPIs to measure key supply chain metrics. KPIs can be viewed on the Insight Dashboard in a format specifically tailored to individual user preferences.

BAM – Business Activity Monitoring

A Gartner term that defines the concept of providing real-time access to critical business performance indicators to improve the speed and effectiveness of business operations. At its broadest level BAM is the convergence of operational business intelligence and real-time application integration. Compared with traditional business event monitoring and reporting BAM requires a higher degree of organizational and architectural planning and investment due to:

- *Its focus on real-time data as well as real-time access to data.*
- *The use of information from multiple application systems and other internal and external sources (unlike more traditional monitoring which uses a single source).*
- *The delivery of information through alerts and graphical displays (dashboards) which are customized and optimized for different users across the enterprise.*

Insight is very similar to Business Activity Monitoring in that it uses real-time data from multiple application systems and displays alerts and graphical displays.

OBI – Operational Business Intelligence

Operational BI is the practice of getting important, real-time data to your people on the front lines - whether they're on the phone with a customer or on the road with inventory - so they can make quick, informed decisions. Operational BI makes this possible by embedding key analytics right into day-to-day business processes.

Insight clearly fits into this category. The goal of Insight is to provide the right information to everyone in an organization from the executives looking at long-term strategic decisions to the workers on the floor, trying to keep the products moving. Insight comes with a library of instruments that can help an operation be more productive immediately. As more Adapters are added, Insight will provide higher level views of data that are consolidated into one view instead of disparate systems.

SCOR – Supply Chain Operations Reference

A supply chain management (SCM) reference model from the Supply Chain Council. It includes a common supply chain framework, terminology, common metrics and benchmarks, and best practices. SCOR can be used as a model for evaluating, positioning and implementing SCM software.

Insight implements various parts of the SCOR metrics. Insight will continue to use SCOR as a roadmap for future metrics.

OLAP – Online Analytical Processing

A category of business intelligence tools used to analyze data. OLAP tools are client and server based analysis tools that originally were based on multidimensional databases — databases constructed specifically to support the analysis of quantitative data, along multiple dimensions — but today can be based on relational databases, most often overlaid by an indexing or mapping scheme that emulates an MDDB. OLAP technology enables users to organize and view the data in a hierarchical manner. Most OLAP applications involve a time dimension, so that data can be analyzed over time to uncover trends.

Insight does not provide Online Analytical Processing. The complementary Data Vault application will provide data that may be used by other OLAP tools, if desired.

Scorecard/Balanced Scorecard

A measurement-based strategic management system - originated by Robert Kaplan and David Norton - that aligns business activities and strategy, and monitors performance in meeting strategic goals over time. Many enterprises use the balanced-scorecard approach to manage enterprise performance.

An application or custom user interface that helps manage an organization's performance by optimizing and aligning organizational units, business processes and individuals. It should also provide internal and industry benchmarks, as well as goals and targets that help individuals understand their contributions to the organization. The use of scorecards spans the operational, tactical and strategic aspects of the business and its decisions. Often, methodologies derived from internal best practices or an external industry methodology is used for scorecarding.

Insight can contribute to an overall scorecard project, but this is not its primary goal.

EIS – Executive Information System

An application program specifically designed for use by the corporate executive. Presentation of material is often structured after the "board briefing book" concept. The EIS acts as a high level interface to a database of company information. It automates analysis and reporting, and typically has a user friendly graphical interface.

One of the primary uses of Insight is as an Executive Information System; however, Insight spans all levels of an organization from the strategic executive level to the tactical management level to the operational level.

EAI – Enterprise Application Integration

An emerging category of products that provide messaging data transformation process flow and other capabilities to simplify the integration of enterprise resource planning legacy and other applications.

Insight provides similar services to EAI systems with its Adapters. Where it makes sense, Insight will leverage existing EAI applications to obtain data.

SOA – Service Oriented Architecture

An application topology in which the business logic of the application is organized in modules (services) with clear identity, purpose and programmatic access interfaces. Services behave as "black boxes": Their internal design is independent of the nature and purpose of the requestor. In SOA, data and business logic are encapsulated in modular business components with documented interfaces. This clarifies design and facilitates incremental development and future extensions. An SOA application can also be integrated with heterogeneous, external legacy and purchased applications more easily than a monolithic, non SOA application can.

Insight uses SOA internally to allow its various components to function independently, making it easier to upgrade and to add additional plugin functionality. Insight will also expose information over web services so it can be used as part of a broader SOA initiative.

ESB – Enterprise Service Bus

A streamlined, distributed integration middleware infrastructure that combines Extensible Markup Language (XML) and Web services support, basic transformation, and intelligent routing. It either includes message oriented middleware (MOM) or wraps other MOM transport mechanisms. It serves as a lightweight integration broker suite (IBS) – more limited in function than an IBS, but offered at a fraction of the price.

Insight can be used as part of an ESB solution. It will act as client to services that contain data it needs, and as a server to applications that need information it provides.

J2EE – Java 2 Platform Enterprise Edition

A Sun Microsystems platform specification and branding initiative that provides a unifying umbrella for enterprise oriented Java technologies. J2EE focuses on server side, multi-tier services. J2EE includes the Java Server Pages, Java Servlets and Enterprise JavaBeans programming models, a number of protocols and application programming interfaces, a reference implementation, a test suite, and an application model.

Insight is a J2EE application, which allows it to be delivered efficiently and to integrate well with your existing infrastructure, whether Windows, UNIX or Linux based standalone or clustered.

Summary

Insight puts supply chain information into the hands of the people that can use it most effectively. It does this by providing five key services:

- Collecting raw data
- Transforming data into information
- Routing information to the correct people
- Presenting information in the appropriate format

- Helping people achieve specific objectives

Insight is designed to provide ROI out of the box with quick and inexpensive implementation times, along with an extensible architecture and developer kits to allow customers to add value and control costs. For more information, please contact Randy Marble or Steve Hensley, or visit our web site:

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