

Business Activity Monitoring: The Merchant's Tale

Vendors are gearing up to deliver BAM installations. Will they be prepared for the organizational dynamics, sales cycle, skill requirements and the entire monitoring paradigm? Retrace one vendor's steps.

Core Topic

Application Integration and Middleware:
Application Integration

Key Issue

How will business and technology trends reshape architectural trade-offs during the next five years?

Geoffrey Chaucer's Canterbury Tales is a case study of perspectives. The Wife of Bath's tale, the Knight's Tale, and the Shipman's Tale each offer distinct personalities, morals and lessons. Each tale has value, if only to teach that which is to be avoided. A case study from a vendor's perspective is like a tale told on the road to Canterbury: The story offers a merchant's perspective, but it will be captivating to all travelers sharing a long road. This case study will highlight the road to business activity monitoring (BAM) taken by Quantive, a small Atlanta-based company with a background in the transportation vertical. Quantive's customer, which confirmed the success of the effort, will not be named.

Problem: BAM is 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 (BI) and real-time application integration aimed at business goals, but enabled through advances in IT. BAM is not application-level monitoring — it is monitoring of a complex mesh of applications and their interactions. BAM is new to many. We expect its mass appeal to enterprises to begin in 2004. At this point, many vendors are in the development phase for BAM offerings.

Quantive began to see an opportunity for real-time monitoring in its sector of the transportation market. Quantive's initial opportunity for BAM came from a customer that needed to monitor a series of freight-shipment-related scenarios. Quantive was called in to build a system that would track "freight refusals" — situations where adequate cargo space is available on the transport, and freight is waiting on the loading ramp, but is not loaded. This scenario was the return on investment (ROI) basis for the Quantive effort. The payback period was determined to be

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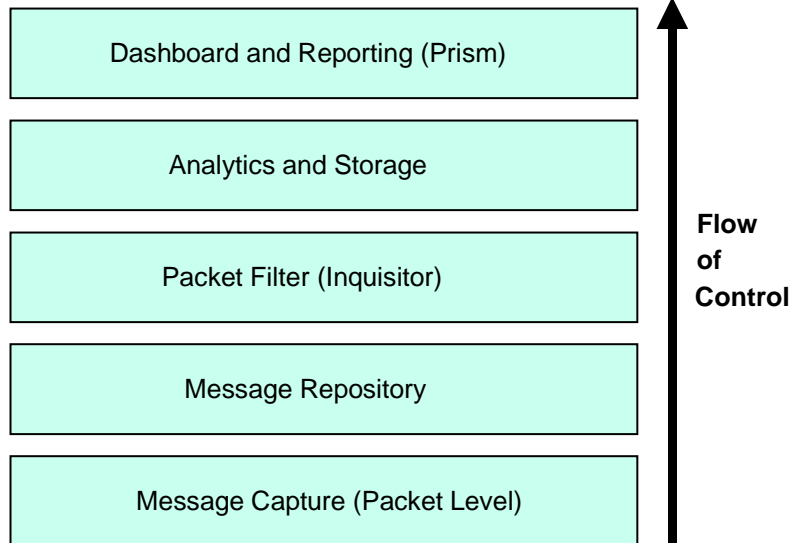
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very rapid. If freight was left unshipped, the shipper shouldered large, tangible costs, paying for delays, perishables that could not wait for the next outbound cargo opening and poor transport utilization. The reasons for freight refusal extend beyond employee error. Loading-ramp equipment damage or unavailability and other legitimate reasons are typical causes. The entire reporting cycle gave management no real-time visibility into the problems until weeks after the event — a situation hardly conducive to real-time intervention, where the loading-ramp worker might have already processed hundreds of shipments since the incident. Because the data sources for the alerts would come from a variety of applications, and BAM is cross-application in nature, the fit was obvious.

Objective: In October 2000, Quantive was hired to deliver a freight-refusal BAM environment, set up the alerting process and procedures, and allow faster management notification of shipments at risk. A central management team in the client's enterprise would use the BAM dashboard to spot freight refusals in near real time (in other words, when there was still time to correct the problem) and would react with calls to the loading ramp to determine what intervention was needed. The key objective of Quantive's customer was to reduce the more than \$100,000 weekly estimated loss due to freight refusals. Quantive's key objective was to extend its services into this enterprise through the innovative use of alerting technology.

Approach: Quantive developed a BAM capability, incorporating its own technology and dashboard capabilities from Cliffstone ("Prism" in Figure 1). Quantive's model is consistent with our view of the layered approach to BAM (see "Turning the Theory of BAM Into a Working Reality," COM-14-9785). Quantive and Cliffstone are both active in the BAM space, but each has a different focus.

Figure 1
Quantive's BAM Architecture



Source: Gartner Research

As implemented in this scenario, Quantive's BAM alerting architecture read message traffic that was sourced from a collection of the enterprise's applications. The solution did more than simply monitor a single application — in Gartner's view, that would not be BAM. Quantive linked into the customer's workstation message traffic, which ran from the users to the numerous applications.

For the sake of comparison, integration brokers also use message sniffing as a means of enabling BAM — but integration brokers tie into the message flow between applications as the messages pass through the broker. Although the implementation of this model differs from the message broker model in that Quantive's product is not a broker and is only a passive listener reading the message flow, the same paradigm applies:

- Messages are captured and logged into a persistent store (which plays the role of the message warehouse).
- Messages are then applied against the Inquisitor, which is a set of filters that examine each message for a particular set of field values (such as destination city and cargo capacity).
- When a message is "trapped" by the filter, the analytics layer is notified.
- If the rules of the analytics layer determine that the message (or combination of messages) is an alert, some form of intervention request is shown on the dashboard (user interface).

The most-complex part of the implementation was setting up the filters and the rules for translating messages into alerts. People and systems often capture the appropriate data. The requirement for BAM arises when the systems are not built to respond in real time to the data captured, and when combinations of multiple independent systems' events (message A from application X, followed by message B or C from application Y) indicate an alert.

Results: From the customer's perspective, the implementation price was not large (less than \$200,000 for the complete system and implementation). For Quantive, however, this was a large deal. In many cases, the actual cost of a BAM implementation will be substantial. Smaller, more precisely focused BAM offerings like this one are only one end of a spectrum of costs. In this particular implementation, Quantive has revenue growth potential because the software was only licensed on a departmental-use basis.

The customer began running the system in an effort to test the filters and the rules. Quantive's customer confirms that, "although the system is not yet in full operation, preliminary results have more than met expectations." The results to which the customer refers are:

- Faster access to problem shipments
- The potential to extend BAM as needed to new opportunities

Quantive got results, too. The customer has determined approximately 20 other BAM opportunities representing add-on sales potential for Quantive. As an example, the customer approached Quantive about an event that had happened in the past 24 hours, inquiring whether there was any way that the installed system could have caught that event. Quantive determined the appropriate message set to examine, from the appropriate applications, and created a filter and rule set. It then ran the new filter against the historical message store (message warehouse), which included all raw messages from the time of the event in question. The new filters trapped the specific event and now run on a "go-forward" basis against live data. BAM's layered architecture (separate and modifiable filter layer) demonstrates the power of real-time monitoring flexibility.

Critical Success Factors/Lessons Learned:

BAM's social impact can be substantial. Vendors cannot overlook the social roadblocks to BAM. As real-time monitoring extends to the individual worker, vendors must consider unions, guilds, trade groups and others. The freight-refusal project was actually the second option that Quantive's customer considered. The original objective was scrapped when it was determined that

the union response was an unknown risk. This caused upheaval in the sales cycle as the customer sought the "next-best choice" BAM opportunity.

Vendor Action Item: The social/human aspect of computing was much researched in the late 1980s; see academic research completed by the International Federation for Information Processing (IFIP) Working Group 8.2 in the 1980s, or by Peter Checkland, Enid Mumford and Rudy Hirschheim. Such research can help enterprises understand the potential social challenges faced with BAM.

Business-issue-specific deployments will dominate. BAM can be sold as a general-technology platform to build on, or as an application-specific offering targeting a specific defined need. Although both will be valid approaches, through 2005, enterprises will buy BAM as a focused solution to a specific problem more often than they will buy BAM as a general architecture waiting for a problem to solve (0.8 probability).

Vendor Action Item: Even where the BAM capabilities are built on a solid BAM platform, vendors must have a message that addresses a business problem. Vendors that can sell BAM as a general use-neutral infrastructure will be limited to those which have massive platform credibility. Even then, business-issue-specific BAM deployments will likely persist in the same enterprises alongside the infrastructure tools.

Domain expertise "rules." Vendors that know a vertical market sector will have significant opportunities to bring BAM to their constituents. It takes a strong understanding of the language, processes and workplace to create compelling BAM implementations.

Vendor Action Item: Systems integrators and boutique vendors like Quantive will ride BAM as the next wave of "expertise leverage." BAM, properly done, will be a competitive weapon. Implementing BAM properly requires deep understanding of the scenarios being monitored. Process analysis, BI and process management skills are all attractive for this effort.

BAM is justifiable and "viral." The ROI for BAM will be clear in many implementations. In fact, enterprises will be more adept at determining ROI cases for BAM than the vendor community. BAM can be considered viral: As enterprises experiment in one area, BAM opportunities will arise across the entire process spectrum.

Vendor Action Item: Vendors should promote long-running customer relationships, because many BAM opportunities are

likely to be uncovered within the enterprise after the first BAM installation goes live. Vendors and their customers should expect BAM opportunities to rise to meet and surpass the available BAM budgets.

Bottom Line: This merchant's tale will not be unique. Every journey begins with a small, first step. As demand for BAM grows beyond this early adopter phase, existing software suppliers will pursue BAM opportunities. One corner of an enterprise will buy into BAM and discover that it can extend to areas previously unconsidered. Hard money savings and real-time reaction are real possibilities. This case study offers a clear lesson: Vendors and enterprises that start now with a BAM opportunity will be the first to spot BAM opportunities for tomorrow.

Acronym Key

BAM	Business activity monitoring
BI	Business intelligence
IFIP	International Federation for Information Processing
ROI	Return on investment