



**Business Activity
Monitoring (BAM)**
helps execs to sift seas
of changing data. But
a move to BAM means
taking on tough
integration
issues.

ILLUSTRATION BY STEVE VANCE



*By Johanna
Ambrosio*

Somewhat like a bride on her wedding day, Business Activity Monitoring (BAM) dons something old, something new and something borrowed.

COVER
STORY

Put simply, BAM is about the real-time monitoring of key business metrics. These metrics are presented to business users in a “dashboard” format and are used to revise the processes being monitored. The end-goal of BAM is a self-improving process that can learn and continue to tweak itself to become ever better.

“The key reason to do BAM is to detect and correct problems and make changes to processes in response to changes in business conditions,” said David Kelly, founder and president of Upside Research in Newton, Mass.

It also allows for a “holistic” view of a business, added Bill Hurley, senior analyst at Enterprise Systems Group in Portland, Wash. “There needs to be a lot of harmony in a lot of moving parts in an organization,” he said. For example, the shipping department may have different incentives and goals from the sales group — shipping may need to save money by waiting until there is a certain number of widgets in a customer’s order before it will ship it overnight. But the sales group may have promised a shipment overnight to a customer that has spent a certain amount with the company in the course of a few months,

in which case there is a “disconnect” between the two departments.

BAM, as defined by Gartner Inc. almost two years ago, differs from traditional data warehousing or business intelligence (BI) applica-

tions. Those older technologies focus on historical information, while BAM is concerned about what happened in the past 24 hours.

And unlike the real-time monitoring of systems and networks within the IT department, BAM is deployed to business users outside of the computer group.

Like much technology, BAM relies heavily on its predecessors. It uses middleware and/or Web services to help integrate applications. Real-time event monitors and “dashboard” interfaces, like those long deployed in network and systems management applications, are used to capture and then present the constantly changing sea of data to end users.

BAM also borrows from the worlds of BI and business process management (BPM). While BPM is not technically necessary to build BAM applications, most analysts



recommend customers start with BPM as the framework to know what to do with all the process data captured by BAM. Without a process improvement mechanism such as BPM in place, all the information generated by BAM just does not make sense. Nor would BAM have a historical background upon which to base its decisions (see "BPM: Alive and well, thanks," page 30).

It is precisely because of this "borrowing" that Gartner defines the BAM market as a composite, consisting in part of BPM, BI, and middleware and other integration technologies. The consultancy expects this composite market to see very healthy growth over the next few years.

Fueling this growth is the realization that BAM is the "killer application for application integration," said Roy Schulte, vice president and research fellow at Gartner Inc., Stamford, Conn. He sees BAM starting in "specific places" within an organization — CRM or call-center operations, for example, or finance, order processing and production, among others.

With application integration, "some-

times it's hard to convince top management to fund the new tools because the benefits aren't tangible," said Schulte. "They don't see anything. But BAM's a much easier sell. Come and look at the mock-up on my screen — this is a demo of the heartbeat of the enterprise, and the dashboard is changing every few seconds to show the updated business conditions."



Why the ties between BAM and integration? Because to do BAM, you need to integrate the production applications you wish to monitor in real time. "If you're already doing integration, it becomes much easier to do BAM because you have hooks into each of the applications," explained Schulte. "Often, these are real-time hooks. And if you have these, then the hardest part of BAM is already in place."

From here it is a matter of setting alert thresholds based on historical data to help sift through the reams of raw data being collected in real time, and then figuring out an interface geared to the specific group of users being targeted.

Who's ready for BAM?

Still, no one expects customers to implement BAM en masse after having an "aha moment." It will first happen in small clusters within vertical industries — primarily finance and health-care — for a couple of key applications in each shop, then grow from there once business users demand it.

Schulte expects BAM to play out similarly to BI, where customers had been doing versions of it for many years. Once it was "officially" dubbed BI (by Bill Inmon in the 1990s), people started doing more of it.

In the case of BAM, real-time dashboards for specific applications and process-

✦ DEFINING THE BUSINESS PROCESS STEP-BY-STEP
✦ ACHIEVING CONSENSUS ON DATA AND PROCESS STANDARDS
✦ IDENTIFYING KEY PARAMETERS AND ESTABLISHING HISTORICAL TREND DATA
✦ A CONTEXTUAL AND COMMUNITY-BASED APPROACH TO USER INTERFACE DESIGN
✦ A HIGH-PAYBACK, INCREMENTAL APPROACH
✦ CHANGE MANAGEMENT AND TECHNOLOGY ADOPTION
✦ ONGOING MEASUREMENT OF BUSINESS RESULTS
✦ INTEGRATING THE PROCESS MODEL WITH A BUSINESS INTELLIGENCE FRAMEWORK
✦ OPTIMIZING THE BAM SOLUTION
✦ DATA AND APPLICATION INTEGRATION

SOURCE: GARTNER INC.

es have existed for years at electrical utilities, nuclear power plants, military command centers and other organizations. But as the majority of corporate information moves online, more companies are realizing that they too can make better use of this information to help improve their core processes.

Blue Cross Blue Shield of South Carolina implemented real-time monitoring once it started selling its back-office processing services to other firms. "Our infrastructure had been designed for internal employees to tell us if they started experiencing any problems," said Steve Von Fange, vice president of commercial systems. "But for external customers, that's not acceptable — they expect you to be more proactive."

Another incentive to develop real-time monitors, Von Fange said, was that it can take an hour or more — between the time the problem has been reported and then tracked down and repaired — to fix even simple problems. All that downtime costs money.

What started out as 10 people manually checking CICS transactions and other applications for performance and additional problems has evolved into au-

Talking Points

BUSINESS ACTIVITY MONITORING

- **Why BAM?** To detect and correct problems, and to change processes in response to changes in business conditions.
- Though BPM is technically unrelated to BAM, many experts advocate using BPM as a framework for utilizing process data captured by BAM.
- BAM implementation can have a major impact on corporate telecommunications and storage infrastructures as masses of data are passed around and stored.
- The BAM technology is still new and packaged solutions are emerging slowly, meaning that early adopters face the normal risks of first implementers.
- At the same time, successful BAM implementations will depend heavily on predecessor technologies like middleware, Web services, business intelligence and BPM.

TABLE 2: GETTING STARTED WITH BAM

- ✦ BUILD A BAM AWARENESS TEAM NOW — AN INVESTIGATIVE TEAM SUPPORTED BY SENIOR MANAGEMENT AND HEADS OF BUSINESS DIVISIONS.
- ✦ IDENTIFY THE SINGLE MOST IMPORTANT ACTIVITY THAT AFFECTS THE COMPANY'S REVENUE AND PROFIT — AND EXAMINE THE BUSINESS PROCESSES WITHIN THAT ACTIVITY FOR POTENTIAL BAM BENEFITS.
- ✦ IMPLEMENT AND LEARN.
- ✦ ASSESS YOUR VENDOR LANDSCAPE. LEVERAGE WHAT YOU HAVE.
- ✦ WORK WITH SUPPLIERS AND CUSTOMERS TO DEVELOP METRICS THAT ARE WORTH MEASURING AND THEN BEGIN TO MEASURE. MEASURE EVEN IF YOU DON'T IMPLEMENT BAM RIGHT AWAY.
- ✦ TEACH THE IT STAFF TO THINK IN TERMS OF CRITICAL BUSINESS ACTIVITIES AND THE ZERO-LATENCY ENTERPRISE.

SOURCE: GARTNER INC.

tomated monitors to check the health of various computer-related processes. Blue Cross Blue Shield of South Carolina has been using Silas Reveille, from Winston-Salem, N.C.-based Silas Technologies, to help it monitor its processes.

Indeed, Enterprise Systems Group's Hurley believes that BAM will really take off only when "business managers and process owners believe that it will help improve their business, and when BAM tools and technologies offer both bottom-line cost savings and top-line revenue growth."

Vendors from everywhere

There are literally dozens of vendors in the BAM space, between those considered "pure-play" suppliers that started out squarely within BAM and others that are moving into real-time monitoring from the application management, integration, BI or BPM markets.

Vitria Technology Inc., for example, is one of many established vendors moving into BAM through a combination of its own technology and partnerships with others. Its Cockpit & Analyzer product gives business and IT users a real-time view of processes and data, as well as the ability to use that information to change the process, said Suresh Chandrasekaran, senior director of product management at the Sunnyvale, Calif.-based firm.

"We're looking at BAM as a pyramid," he

said, with the bottom rung being systems and network monitoring, and then moving into areas having historical data in the same place as the real-time information.

Vitria recently inked a partnership with business-rules vendor Ilog to incorporate the ability for business users to include specific rules into monitors and alerts. "So if it's this customer type and the value of the transaction is X, and it's related to our 24-hour sale, then do this," Chandrasekaran explained. A natural evolution of this deal is real-time analysis, through pattern recognition and other means, to modify offers and transaction rules in real time, based on business rules.

Although the deal with Ilog is specific to health-care for now, the goal is to expand the relationship into other verticals, Chandrasekaran said.

The start-ups

On the pure-play side are mostly start-ups, including Burlington, Mass.-based Verilytics Technologies and its Verilytics Application Platform, which comprises a suite of several components consisting of an analytic server, alert server and integration tool. Other vendors in this camp include:

- Systar, McLean, Va., with its BusinessBridge product that includes a rules-based engine.
- Categorical Software, which is a

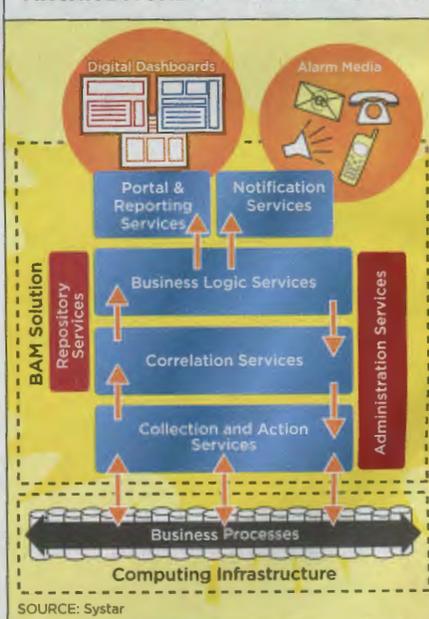
U.K.-based concern that has a U.S. office in Third Lake, Ill. Its Xalerts is an event-management platform that allows IT and business users to build "event workflows" that capture information from multiple sources.

- iSpheres Corp., Oakland, Calif., bills its Halo as a production "event server" that was derived from military command-and-control applications.

- Apama, based in Cambridge, England, but with a U.S. office in New York. The firm's technology has an algorithm that removes the need for data to be indexed, allowing new queries to be added with "virtually no overhead." The company has used this technology to build real-time software for customers in finance, telecom and security.

- Celequest Corp., Redwood City, Calif., has the Celequest 2.0 Activity Suite, a family of four components that captures and models business processes and then allows business users to view alerts and real-time metrics.

ARCHITECTURE OF A BAM SOLUTION



SOURCE: Systar

In Systar's take on BAM, business performance information is collected, actions are correlated, rules applied and users notified.

• Woodland Hills, Calif.-based Syntheon Inc.'s Tools Suite includes a business activity manager, data and event manager, and interaction manager.

These and other products are just the tip of the iceberg, analysts say. Eventually, BAM features will be "cooked" into virtually everything, from CRM and ERP packages to DBMSs and everything in between.

What customers need to know

Some shops will not want to wait for packaged solutions. To get going now, however, means implementing different enabling technologies and understanding the relationships between them all. There is also the matter of knowing more about event-oriented design in an era that has been pushing Web services architecture as the answer to most problems. "Web services still matter, but it's not enough," said Gartner's Schulte. "Services and events are good for different things, and you need to know them both."

Further, BAM does not exist in a software-only world. This will likely have a major impact on a company's telecommunications and storage infrastructures, as so much data is passed around and eventually stored.

Finally, doing BAM right now also means being your own systems integrator and taking the usual risks with being an early adopter of any technology. No one software house, however clever, will likely have everything you need to get your 20-year-old legacy applications to talk to your Web server, or vice versa, especially in real time.

But technology is only part of the problem. The age-old issue of technology gurus not really understanding the business raises its ugly head here.

There are other cultural conundrums, too. "Hey, you can get a [real-time] monitor done in three days. But what kind of quality will you have? And you might

BPM: ALIVE AND WELL, THANKS

Even with more focus on real-time metrics, the BPM market is very much still kicking and growing.

David Kelly, founder and president of Upside Research in Newton, Mass., calls BPM a still emerging market "with lots of activity."

"What we're seeing is that as organizations begin to integrate their applications, they look to take the next step for how to manage them from a business process perspective," Kelly said. So the integration trend is key to the growth of BPM.

For that reason, BPM vendors are flocking to adopt Web services to give customers the ability to expose whole, or pieces of, processes as Web services components. It allows companies to more easily and less expensively integrate their own processes with those of partners or customers.

The BPM supplier crowd is also doing deals — technology and/or marketing — to help their wares include more real-time features.

Intalio is a BPM vendor that is including features for both Web services and real-time links in its products. "We view BAM as an extension of BPM, or as one of the reasons why you might want BPM in the first place," said Ismael Ghalimi, co-founder and chief strategy officer at Intalio, San Mateo, Calif.

In release 2.5 of its software, announced in September, the company focused on not just the real-time workflows, but on understanding what is actually in the information being passed around. It focuses, for example, on knowing that a specific purchase order may be at a particular point in the process, but that it also is for a certain amount of money; or that there are 15 purchase orders, for more than \$10,000 each, waiting for approval.

"The challenge is to allow the process owners to specify the metrics that are used for their process," Ghalimi said. The next step, in a future release, is to allow the BPM software to automatically store the massive amounts of information required for BAM on storage devices.

Another important reason to use BPM or business intelligence as a foundation for BAM, analysts say, is that setting BAM's thresholds correctly requires corporate historical data. In other words, to know when to do something to change a process requires an understanding of what has happened before that particular moment in time.



GHALIMI

— Johanna Ambrosio

wind up with 350 monitors and no one really knows what's being watched," said Von Fange at Blue Cross.

His shop spent some time figuring out what was worth making the effort for. "We worked out a methodology to ensure people don't just build monitors for fun and that what does get produced has value," he explained. They wound up with a value matrix with four or five levels, and with each level assigned a priority. "At the time I hated it because I wanted to just

get started," he recalled. "But now I understand why we had to do it."

When all is said and done, said Enterprise Systems Group's Hurley, "we don't really solve problems — we just figure out how to make an old problem into a new one. You find new problems as you're solving old ones." ○

Johanna Ambrosio is a freelance writer based in Marlborough, Mass. She can be reached at jambrosio@earthlink.net.