

Is Your Middleware Sapping Performance?

Get the best out of your middleware without negatively impacting IT productivity with BMC Middleware Management solutions

SUMMARY

Middleware systems, especially messaging middleware, play a critical role in delivering business data. Middleware enables the flow of data among enterprise systems, helping companies deliver a plethora of services, from e-commerce and healthcare to travel and entertainment. Middleware allows companies to weave together business units, supply chains, and distribution networks to bring goods to market quickly and efficiently. It simplifies development and integration and reduces the need for costly, hard-to-maintain custom coding. Middleware is the vessel that makes data resources available to systems and applications. Not surprisingly, it is also resource-intensive and, if not properly managed, can quickly sap performance and productivity from the IT environment.

Middleware problems have a significant impact on the business. Service outages interrupt key IT services and applications, leading directly to lost revenue, damaged business relationships, a poor public reputation, and disruption throughout the enterprise. Many companies lack an effective way to ascertain the root cause of service events related to middleware, resulting in massive troubleshooting efforts.

In light of the importance of middleware systems—and the high potential cost of disruptions—middleware management tools are now an essential part of every IT environment. These tools keep data flowing, prevent problems, streamline, troubleshoot, guide administration, and empower user self-service. The business case for BMC Middleware Management is clear; organizations can:

- » Detect potential issues early to enable a proactive approach to performance and availability
- » Accelerate mean time to repair (MTTR) for issues that impact service delivery
- » Increase productivity for MQ users and administrators
- » Gain visibility into message traffic and transactions
- » Reduce risk with secure, auditable configuration management

This white paper explores the role of BMC Middleware Management in the enterprise and the resulting business impact and return on investment (ROI).



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BMC: THE EVOLUTION OF MIDDLEWARE FOR TODAY'S IT

Middleware is indispensable for efficient application integration, making it far simpler to move data among systems. Acting as a logistics system for many mission-critical applications, middleware systems like IBM MQ and TIBCO dwarf most other systems in the enterprise in terms of both volume and impact. The trillions of messages that move through middleware each day, including financial trades, e-commerce transactions, customer data, supply chain transactions, inventory management records, and much more, are the lifeblood of the business.

Any performance degradation or downtime in these critical systems results in very real financial consequences. For large financial services organizations, each hour of downtime for a single application can exceed \$1 million. That's just the beginning:

- » Development work stops as developers are unable to build, test, or debug new applications and updates effectively.
- » Supply chains break down, as companies are unable to exchange production data, designs, orders, and other critical information with partners.
- » Internal company services are disrupted, from payroll and benefits to facilities and IT itself. Service interruptions lead to lost sales and damage to the company's brand and customer relationships.
- » Broken service level agreements (SLAs) and failed audits bring fines and undermine the company's credibility with partners.
- » Lost data and messages pose security risks and can expose the company to embarrassing and costly breaches.

Similarly, middleware breakdowns can cause compliance violations with government and industry regulations on data privacy, configuration security, and auditability, leading to fines, lawsuits, and bad publicity.

IT staff members face a major challenge in preventing middleware issues from impacting the business. There could easily be thousands of middleware systems in the enterprise, all interconnected, with data flowing from any point to any other point at a given time. This is a hugely complex environment to monitor and troubleshoot. IT is often too resource constrained to handle both administrating the systems and fielding requests from hundreds of users. MQ users, application developers and testers, production operational personnel, analysts, and customer support staff typically outnumber MQ administrators by 10:1 or even 50:1. Administrators can spend an inordinate amount of time responding to calls from users, chasing down elusive issues and conducting war rooms to diagnose and fix issues.

To keep middleware systems performing at their best, MQ administrators need a better way to monitor, manage, and administer them effectively. This includes the ability to:

- » Monitor message traffic to make sure everything is healthy and working as expected, and to identify emerging issues quickly
- » Empower users with self-service to increase operational efficiency
- » Troubleshoot issues efficiently without tying up personnel

IMPROVING PERFORMANCE AND AVAILABILITY WITH BMC MIDDLEWARE MANAGEMENT

BMC Middleware Management helps ensure that application performance satisfies business demands. Proactive management of a cross-enterprise view of the middleware environment provides IT with critical context for understanding emerging issues, resulting in fewer service disruptions and quicker resolutions when problems do occur.

With BMC Middleware Management, you can simplify and automate the management of middleware and transactions so you can:

- » Proactively identify middleware and transaction problems that affect performance and service delivery
- » Monitor middleware components
- » Empower middleware resources with secure, self-service middleware administration
- » Gain deep visibility into middleware for troubleshooting and root cause analysis

BMC Middleware Monitoring reduces outages through early problem identification and alerts, resulting in faster time to resolution. A unified, real-time view into the traffic and flow of messages throughout the entirety of the business provides key information about the nature of each issue: Are messages stuck? Which application is the problem? Is a server down?

Event notifications quickly mobilize the right people to diagnose and fix issues. Historical records deliver reports on the middleware use and performance needed for planning and service level management.

BMC Middleware Administration empowers middleware users to handle many of their own needs, increasing their productivity while reducing the burden on senior MQ administrators. Authorized users can perform all middleware administrative and configuration tasks from a web browser, eliminating the need to log on to each host, providing a simple, intuitive user experience. Infrastructure objects are grouped to provide users with secure object profiles and make navigation faster and easier. Secure, role-based access ensures that users can only reach the objects relevant to their role or application, reducing complexity while minimizing risk. BMC Middleware Administration is massively scalable, easily handling the largest MQ and TIBCO enterprises in the world. It runs on a single server and provides users with access to all of the product's functions via remote desktops.

KEY BENEFITS OF BMC MIDDLEWARE MANAGEMENT

FASTER TIME TO RESOLUTION

The costs of a middleware outage add up quickly, making it critical to get systems up and running as soon as possible. BMC Middleware Management enables proactive monitoring to catch developing problems before they become disasters—and before they impact customers. MQ staff gains the visibility to identify the nature of each problem quickly and move directly to a solution. As a result, companies can:

- » Eliminate the need for costly and time-consuming war room scenarios
- » Improve SLA compliance
- » Reduce or eliminate delays in bringing new applications and services to market
- » Alleviate delays and downtime to deliver a better experience to both internal and external customers

IMPROVED MIDDLEWARE/APPLICATION PERFORMANCE

In a survey conducted by TechValidate for BMC Software, 55 percent of IT organizations using BMC Middleware Management increased their middleware and associated application performance by 25 – 49 percent or more. One-quarter of surveyed IT organizations increased their middleware and associated application performance by 50 – 74 percent or more (TechValidate, 2013). One Fortune 500 healthcare company increased middleware and associated application performance by more than 75 percent (TechValidate, 2013).

- » Logistics, supply chain, and inventory systems run smoothly so things get where they need to be, when they need to be there
- » Application developers and testers can do their work without disruptions to deliver support and innovation to the business in a timely manner
- » E-commerce sites perform at their best, keeping customers engaged and improving retention
- » Customer-facing services deliver a first-rate user experience, building loyalty and satisfaction

INCREASED USER PRODUCTIVITY

When users are unable to access their messaging queues, their work grinds to a halt while they wait in line for an MQ administrator. Delivery dates can slip, new services do not come to market on time, processes break down, and the business faces a competitive disadvantage. With BMC Middleware Management self-service administration tools, users do not depend on the availability and responsiveness of MQ staff to get their work done. Users are shown only their personalized dashboard, not anyone else's, to simplify usage and reduce risk. This means that:

- » Users can access the MQ objects and resources they need quickly and securely without waiting for busy staff or having to spend time sorting through unrelated objects
- » Users become dramatically more productive in their core work—an average of 38% increase in a typical enterprise—providing immediate value for the business (TechValidate, 2013)
- » MQ staff members are not tied up with ad hoc requests and can become more productive
- » For both MQ users and administrators, BMC Middleware Management makes tasks easier and faster without introducing security risks

VISIBILITY AND ACCOUNTABILITY

A holistic view of queue managers and channels helps ensure performance and availability. BMC Middleware Management provides “hop-to-hop” visibility of transactions across platforms throughout the IT infrastructure and helps trace any message quickly and accurately—discovering where performance issues lie or recovering missing transactions. Information on performance and business impact is presented on easy-to-read dashboards. This visibility and accountability is critical in a broad range of scenarios—to name just a few:

- » A large cash transaction (over \$10,000) being wired out of the country must be reported to the Department of Human Services (DHS) for security and counter-terrorism purposes, but the message cannot be found
- » A credit card company faces complaints from retailers of slow processing and needs to diagnose whether the issue is in the processor's systems or the retailer's own infrastructure to avoid paying SLA penalties in the event that it is not their fault
- » A securities company processing trade requests through MQ finds that processing times are slower than the competition, resulting in lost business, and they need to find out where the problem lies—and whether it is in their own systems or a partner's
- » For companies of all kinds, full visibility and accountability aid charge-back reporting and compliance with regulatory and audit requirements

REDUCING RISK

Better messaging availability, performance, and accountability help reduce many business risks, including:

- » Fines for missed SLAs
- » Regulatory fines for lapses in security, configuration, or data privacy
- » Lost sales, revenue, and business opportunities
- » Damaged partner and customer relationships
- » Undermined competitive advantage due to poor application and service performance

CALCULATING ROI FOR BMC MIDDLEWARE MANAGEMENT

BMC Middleware Management delivers both hard dollar savings associated with avoiding the cost of outages or significant delays in message delivery, as well as soft dollar savings. The latter can include productivity enhancements and dollars in terms of pay per hour, returned to the employee through faster problem resolution. Soft dollars can also be evaluated in terms of job satisfaction and reduced frustration, which in turn can reduce staff turnover and the hard dollar costs of replacing an experienced team member.

Additional factors may be harder to quantify, but are no less important to discuss:

- » Elevated service levels due to decreased disruptions
- » Reduced risk associated with changes
- » Auditing of all activity to demonstrate compliance with internal and industry regulations
- » Increased productivity resulting in shorter testing cycles
- » Business value of delivering new and enhanced applications to production sooner
- » Increased MQ administrator due to fewer disruptions caused by ad hoc requests

For assistance calculating the specific ROI for BMC Middleware Management in your organization, please contact a BMC software account manager.

BUSINESS IMPACT OF BMC MIDDLEWARE MANAGEMENT AT REAL-WORLD ORGANIZATIONS

The benefits of BMC Middleware Management have been demonstrated by companies in a broad range of industries.

RETAIL

One of the world's largest retailers had performed MQ administration functions with spreadsheets and utilities, a slow and inefficient approach requiring nearly ten full-time MQ administrators. Now, with BMC Middleware Management, a few interns can support hundreds of MQ users, freeing MQ administrators for more strategic work. Incoming calls from MQ users have been nearly eliminated. The time needed to move a certified MQ configuration from development to production has been reduced from several weeks to only a few days. Developer productivity has increased by nearly one-third, and hard dollar savings total over \$3.5 million per year (TechValidate, 2013).

FINANCIAL SERVICES

Banks, financial services firms, insurance companies, and other banking, financial services, and insurance (BFSI) organizations have large volumes of sensitive data flowing through their middleware, from account numbers and balances to social security numbers and other personally identifiable information (PII). One major bank failed an audit because its middleware environment was too easily accessible by too many people—there was no way to ensure that a developer given access to MQ for development purposes would not reach into production systems and steal or alter data. BMC Middleware Management helps companies enforce configuration management security to avoid the risk of a failed audit or violation of Sarbanes-Oxley, the Health Insurance Portability and Accountability Act (HIPAA), and other demanding regulations.

Investors are obsessed with time—including how long it takes to send and process trades. By eliminating delays, BMC Middleware Management helps brokers and other firms gain an edge in completing orders on time to capture price opportunities and avoid losing clients to faster competitors.

PROFESSIONAL SERVICES

A Fortune 500 professional services organization deployed BMC Middleware Management to reduce the resources being tied up when trying to identify, isolate, and resolve performance issues or outages. The results:

- » Increased middleware and application performance by 25 – 49 percent
- » Increased the productivity of IT and application developers by more than 25 percent
- » Achieved full ROI within 9 – 12 months

Another professional services company achieved full ROI in less than three months through operational efficiency, middleware and application performance, availability, and staff productivity improvements (TechValidate, 2031).

FOOD AND BEVERAGE

Service account personnel—previously known as “rack jobbers”—travel from store to store filling display racks with a company’s products. If replenishment orders do not arrive on time, their competitors will seize the opportunity to occupy all available space, capturing additional visibility and sales at the company’s expense. One company found that if its inbound rate of messages exceeded its outbound rate for longer than 15 minutes, it would not be able to keep up with market demand and its merchandise replenishment would lag. Monitoring helps the company anticipate slowdowns before they affect its business and scale up as needed to ensure that it does not lose sales opportunities or competitive positioning.

EVENTS

A customer in event production found that outages cost more than \$500,000/minute in lost ticket revenue it could never get back. Using BMC Middleware Management the customer was able to eliminate outages and realize a strong ROI.

PHARMACEUTICALS

A pharmaceutical company using BMC Middleware Management discovered that a queue manager had failed and was preventing pharmacy requests from reaching its systems. The customer acted quickly to get it back online before falling out of compliance with Affordable Care Act (ACA) regulations. The financial impact avoided in that single incident paid for the entire solution (TechValidate, 2013).

MILITARY

For military contractors supporting the armed services, time is only one consideration; they must also make sure they are shipping the right equipment and the right parts where they need to go at the right time, without mistakes or losses. BMC Middleware Management helps military contractors ensure that data flows accurately through their systems and beyond so they can provide the support promised to the armed services. With BMC Middleware Management, IT productivity increased by greater than 50 percent, while ROI was realized between 6 – 9 months (TechValidate, 2013).

CONCLUSION

Given the critical role of middleware in business performance, organizations cannot afford to wait for issues to impact users before taking action, or to rely on reactive and inefficient war-room troubleshooting to identify and resolve problems. To ensure availability and performance for users, while enabling MQ staff to focus on high-value work rather than ad hoc requests, it is essential to take a more proactive and informed approach to middleware management. BMC Middleware Management detects emerging issues earlier, resolves them more quickly and efficiently, and enables new levels of visibility throughout the messaging environment. As a result, data flows more smoothly and reliably to support processes within the company and across its partner and customer networks. BMC helps IT organizations improve business performance, reduce risk, and increase productivity.

To learn more about BMC Middleware Management, please visit

<http://www.bmc.com/it-solutions/product-listing/middleware-management-software.html>.

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