



## BMC Performance Manager

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## Executive Summary

If service management at your company consists only of responding to and resolving problems reported by end users, you're not operating as efficiently as you could be, and that's costing you money. If you can become more proactive in managing your IT infrastructure and applications, you can improve your operational efficiency, reduce your operating costs, and increase the quality of the service you provide. You can stay apprised in real time, and you can fix most problems before end users call in – even anticipate problems and prevent them from occurring at all.

Proactive incident and problem management is a new approach that can deliver those benefits and more. It benefits IT organizations because it is less expensive, and faster, than traditional reactive incident and problem management approaches. A proactive approach streamlines your IT processes and lets your people focus on tasks and projects that deliver more strategic value to your company, such as rolling out new applications or upgrading system hardware.

Proactive incident and problem management reduces the number of calls to the service desk while more completely satisfying end users. Service desk associates will become more efficient and will have more time available to assist end users who have especially complex or unusual problems.

BMC Software is the only company that can enable you to take a truly proactive approach to incident and problem management. BMC® Performance Manager is a leading performance, availability, and event-detection solution that brings true proactivity incident and problem management. This solution enables IT Operations teams to:

- Monitor IT resources across the entire enterprise at less cost
- Fix events before they become business-hampering problems
- Speed resolution when problems do occur
- Collaborate more efficiently with the service desk

BMC Performance Manager is tightly integrated with BMC service support solutions. As a result, when it issues a proactive alert indicating that a problem will soon occur, the *business relevance* of the impending problem is identified, allowing service desk associates to work in the sequence of business priority rather than the traditional first-in, first-out approach.

This paper:

- Explains why your incident and problem management solution should be proactive
- Discusses the criteria that a proactive solution must meet
- Presents the BMC Performance Manager approach to meeting the criteria
- Describes how you can reduce your costs and improve your quality of service

## Why a proactive approach is needed

Incident and problem management systems today are highly sophisticated. They consist of a myriad of systems management and systems support tools that significantly improve the ability of IT Operations and the service desk to deliver service and respond to end users with efficiency and effectiveness. Incident and problem management solutions from the leading vendors offer some or all of these important capabilities:

- > Policy-based automation of both incident and problem management processes, to speed incident response and resolution times; may include automatic ticket routing and automatic workflow management
- > Separate but integrated workflows for incident management and problem management: separate workflows because incident management and problem management are separate disciplines and require different processes to ensure optimum workflows for both; integrated workflows because the disciplines are closely related, in that the problem management process is often triggered by an unresolved incident or set of incidents, and in that the problem management process relies on data related to incidents (such as historical, user, change, and asset or configuration data) to identify root causes
- > The use of consistent, repeatable processes based on best practices and the IT Infrastructure Library (ITIL®); guides your technicians through standard processes; automates processes whenever possible
- > Acceptance of incidents through multiple channels, including telephone, fax, and e-mail – for the flexibility of both end users and service desk associates
- > A built-in knowledge base of known errors and successful resolutions, which can include temporary workarounds; the knowledge base helps service desk associates quickly find resolutions and return users to full productivity; by extending the knowledge base to end users, you can empower them to help themselves

These capabilities have helped make service management more efficient and effective. However, they are not enough today. Most IT shops in large and medium companies are barely keeping up with the constantly increasing numbers of applications, the increasing complexity of applications, and the sheer number of people who use them.

Think about how much work your end users already do via the Internet, or internally via Web browsers. They order equipment, supplies, and information. They routinely perform self-service HR transactions. Because browser-based applications move the end user closer to the technology, a single problem can affect a great many end users.

If service management at your company consists only of responding to and resolving problems reported by end users, you're not operating as efficiently as you could be, and that's costing you money. You will lose ground as the number and complexity of applications continue to grow. Eventually, you could fall hopelessly behind.

If you want to increase the value IT brings to your business, your service management strategy can't just be reactive – it must become proactive and therefore highly scalable. Specifically, your systems management solution should become overwhelmingly proactive. A proactive systems management solution would enable you to stay apprised in real time of the status of your IT infrastructure. You would detect and resolve most problems before your end users reported them to the service desk and you could proactively notify affected users of problems detected in the IT infrastructure before users called the service desk.

If your call volume is always high, if it never goes down, if you just can't keep up – you are probably not getting what you need from your existing systems management solution. Whether it's a product from IBM-Tivoli/Micromuse, Mercury, Hewlett-Packard, Computer Associates, or just simple freeware, it is probably not enabling you to be truly proactive, and it will eventually leave you stranded.

## Characteristics of a proactive solution

A systems management solution can be proactive on two levels: (1) it can detect and fix problems before end users become aware of the problems and call the service desk; (2) it can detect anomalies *before* they become problems altogether.

To be proactive on both levels, a systems management solution must have five characteristics: an early warning system, automated recovery, integration with the trouble-ticketing system, integration with the service impact management system, and depth of functionality.

### Early warning system

The systems management solution must be able to constantly monitor for conditions that may lead to problems if corrective action is not taken. The solution must be able to manage *every system* in the IT environment. Historically, most IT shops have not managed every system. They have selectively managed only the most critical systems – leaving many important systems unmanaged – because of the high overhead costs of traditional management technologies.

### Characteristics of a Proactive Systems Management Solution

Early warning system

Automated recovery

Integration with the trouble-ticketing system

Integration with the service impact management system

Depth of functionality

### Automated recovery

The systems management solution must be able to automatically solve most problems, to avoid burdening the service desk with routine matters. When it cannot automatically solve a problem, it should help speed problem resolution by supplying service desk associates with detailed information concerning the event and relevant guidance.

### Integration with the trouble-ticketing system

The systems management solution must be able to open a trouble ticket and to communicate with the trouble-ticketing system throughout the life of the incident.

### Integration with the service impact management system

The systems management solution must be able to communicate with the service impact management system to determine the true business priority of any incident. In addition, the systems management solution must be able to communicate with other systems within IT.

### Depth of functionality

The systems management solution must offer deep – not just broad – functionality. That is to say, it must be able to work in depth with a wide variety of systems and applications.

## Characteristics of the BMC solution

BMC Performance Manager is the only solution that can enable you to take a truly proactive approach to incident and problem management.

### Early warning system

BMC Performance Manager constantly and diligently manages *every system* in the IT environment, at an affordable cost (see “Faster and Less Expensive,” on page 5). A good example of diligent management is the mundane file system. BMC Performance Manager might, for example, execute a UNIX command every few minutes to check the size of a file system, and then match the reported size with a threshold that was established by the user (or out-of-the-box, based on best practices of other BMC customers).

When the threshold is reached, an event is created and automatically forwarded to BMC® Service Impact Manager (SIM), where the business impact is assessed and the priority assigned. The resulting trouble ticket – automatically generated with sufficient diagnostic information and business priority – can quickly be assigned to the proper associate for a speedy resolution. If BMC Performance Manager is able to automatically correct the error, in this instance by emptying the file system of unneeded temporary files, the trouble ticket is updated to reflect that service has been restored.

### Automated recovery

BMC Performance Manager automatically corrects a wide variety of problems that would otherwise have to be solved manually. As a direct result, you get more work from the same number of operations people and service desk people. In operations, the time saved can allow you to get new initiatives completed, such as rolling out new applications or upgrading hardware.

Here’s an example of automated recovery. Whenever an MQSeries message (typically a financial transaction) cannot be routed through the MQSeries network, it ends up in a dead-letter queue. Without automation in place, an operator has to check the dead-letter queue frequently and determine what to do with each queued message. In contrast, BMC® Performance Manager for WebSphere MQ automatically reroutes messages that wind up in the dead-letter queue – based on either the content of the message or the description in the message header. Not only do you *not* have to keep checking the dead-letter queue, but also the messages are rerouted instantaneously.

When it cannot automatically solve a problem, BMC Performance Manager speeds problem resolution by supplying service desk associates with events that contain useful information. Specifically, the events contain: (1) detailed forensic information necessary to resolve a failure when it occurs; (2) thresholds and other business-relevant metrics; (3) business-impact information from BMC Service Impact Manager; and (4) information meaningful to both operations and the service desk, so they can collaborate better and solve problems faster. BMC Performance Manager events are significantly more detailed than events from other solutions.

As a simple example, BMC® Performance Manager for Internet Servers watches Web servers. When this solution detects anomalous activity, it automatically runs through the 10 steps that a typical system administrator would perform manually to diagnose the problem and documents the results. This automatic feature alone saves 5 or 10 minutes per incident – day after day.

### **Integration with the trouble-ticketing system**

BMC Performance Manager automatically opens trouble tickets in and communicates with BMC® Remedy® Service Desk throughout the life of the incident. For example: BMC® Performance Manager for Siebel eBusiness Applications proactively detects that transactions are beginning to queue – slowing down the users. A trouble ticket is automatically opened with the proper priority while BMC Performance Manager alleviates the problem by dynamically increasing the number of transaction routers in the Siebel application server. Then BMC Performance Manager updates the trouble ticket to report that the proper service level has been restored, allowing users to continue to use the system without interruption.

### **Integration with the service impact management system**

BMC Performance Manager communicates directly with BMC Service Impact Manager to determine the true business priority of any incident or event. Here's a very simple but typical example: In a large company, a router in Colorado and a hub in Texas went down at the same time. The company's service desk handled the router problem first, on the assumption that a router is typically more important than a hub. But, as they later learned, this particular router was in an unoccupied building – whereas there was an office full of people dependent on the hub. Without the ability to determine the true business priority, the service desk unwittingly wasted valuable time while many end users waited for service to be restored.

In addition, BMC Performance Manager maintains the enterprisewide view in a configuration management database (CMDB) based on ITIL process guidelines, to facilitate implementation of ITIL best-practice processes. The CMDB provides a point of integration between the incident and problem management solution and those of other IT disciplines, permitting you to implement processes and Business Service Management workflows that transcend IT disciplines.

### **Depth of functionality**

BMC Performance Manager offers deep – not just broad – functionality. It works in depth with a wide variety of systems and applications. For example, BMC Performance Manager for Siebel eBusiness Applications contains a codified Siebel diagnostic guide. The guide tells the administrator what to do when a given problem occurs – the administrator doesn't have to waste time looking through Siebel manuals. This is an out-of-the-box capability of BMC Performance Manager.

### **More comprehensive, faster, and less expensive**

BMC Performance Manager is unparalleled in the systems management industry. It is more comprehensive, faster, and less expensive than any other event-detection solution. Nothing from IBM-Tivoli/Micromuse, Mercury, Hewlett-Packard, or Computer Associates even comes close.

### **More comprehensive**

BMC Performance Manager is the evolution of BMC® PATROL®, the most comprehensive systems management solution in the industry. It is an enterprise-class systems management tool that covers UNIX, Linux, Windows, and other operating systems.

Out of the box, it covers many packaged applications – Siebel, SAP, Oracle, and PeopleSoft – and is easily extended to cover additional applications or systems. Naturally, it has a robust development community and third-party vendors who have written solutions based on the BMC Performance Manager architecture.

BMC Performance Manager performs very deep surveillance; it doesn't simply alert that a threshold has been exceeded. For example, BMC® Performance Manager for SAP Solutions proactively monitors SAP transactional performance, detecting performance degradation and isolating the problem to the probable root cause, such as a long-running SQL statement.

## Faster and less expensive

BMC Performance Manager is faster and less expensive because it's easier to use, in every way.

The solution reduces your deployment costs because it is a hybrid solution that includes both agent-based and agent-less monitoring technology. It gives you the flexibility to manage your infrastructure with *either or both technologies*. In contrast, solutions that are based solely on agent technology can require a long time to set up the infrastructure and to install, test, and certify agent software on each of the various systems to be managed – often thousands of systems.

In addition to these deployment costs, agent-based systems require updating every time you upgrade your applications – and may in fact *delay* your upgrades. Configuration is yet another additional cost.

So the hybrid approach works best because you can minimize the number of agents you have to deploy by putting agents only where you need them and monitoring the rest of your environment remotely – all within a single architecture. BMC Performance Manager combines the best of both worlds. As a remote platform solution, it installs very quickly on a single system, or, it can scale to larger systems, but from a single central location.

You can be up and running and monitoring in a matter of hours because BMC Performance Manager includes threshold settings consistent with ITIL and best practices (based on extensive experience of BMC customers). If you do want to tailor BMC Performance Manager, you'll have a lighter administration burden because you won't have to touch as many machines, there's less downtime, and there are fewer security risks.

## Collaboration: a scenario

BMC Performance Manager is widely and deeply integrated with other BMC solutions. As a result, for example, it automatically can open a trouble ticket in the BMC Remedy Service Desk. In the ticket, the service desk associate has the relevant information necessary to diagnose and resolve the incident (or escalate it). In the past, the service desk would wait for an end user to call, then call operations to find out what relevant problems they may be having, then call the user back, and so on. The process can be very labor intensive and therefore expensive. Through automation and tight integration, BMC Performance Manager fosters more efficient collaboration between the two groups.

Here's a scenario that describes collaboration in detail – before and after the deployment of BMC Performance Manager and related solutions from BMC.

### Before BMC Performance Manager

It is the end of a fiscal quarter at the data center of a large corporation. The server administrator receives an alert: a Windows server is experiencing excessive paging. Within minutes, an associate at the service desk learns that the sales automation service has terminated. Simultaneously, the service desk receives calls from end users who can't process orders.

The server administrator doesn't know the business impact of the excessive paging alert. He may or may not address it, depending on what else he has to do. However, the excessive paging problem is a symptom of a larger problem: the server has insufficient memory. The memory shortage is causing excessive paging and is affecting disk performance. If the sales automation process were being monitored, it would show high CPU usage due to excessive paging.

After being notified that the sales automation application is unavailable, the service desk associate contacts everyone in the IT infrastructure who might be responsible: network administrator, database administrator, server administrator, and application administrator. Each administrator troubleshoots the problem separately. The service desk staff doesn't know that the termination of the sales automation application is related to the excessive paging alert. If the staff had had the time to make that connection, they could have focused immediately on the administrator of the server that exhibited excessive paging.

The incident is eventually resolved, but not until the various administrators waste valuable time investigating a problem that is not their own. In addition, because the relationship between the alerts is not captured, nothing is learned. When this scenario recurs, the resolution will not be any faster.

### After BMC Performance Manager

Now consider the same scenario, but with BMC Performance Manager in place. The operations staff is using BMC® Performance Manager for Servers to monitor the Windows infrastructure and BMC Service Impact Manager to correlate events and project the business impact of alerts. The service desk is using BMC Remedy Service Desk.

It's the end of the quarter. The BMC Performance Manager parameter that monitors the percentage of the page file that is in use goes into alarm and generates an alert, which is displayed in the BMC Performance Manager console. BMC Performance Manager forwards this alert to BMC Service Impact Manager (which uses customer-defined rules to model how events in the IT infrastructure affect business services).

Next, BMC Performance Manager detects that the sales automation process is consuming high CPU. BMC Performance Manager generates another alert and sends it to BMC Service Impact Manager, which in turn correlates this event to the excessive paging event and determines that an incident exists that affects the order fulfillment service. Because the company has designated this service as critical, BMC Service Impact Manager opens a trouble ticket in BMC Remedy Service Desk. The ticket includes information about the BMC Performance Manager alert and the business impact. A service desk associate forwards the ticket directly to the system administrator of the affected server.

The system administrator uses the BMC Performance Manager console to further diagnose the incident. First, he notices that the BMC Performance Manager parameter that monitors disk activity is high. He determines that a lack of physical memory is causing the high paging and disk activity. During periods of peak usage, the lack of memory is causing the sales automation application to consume high CPU.

The administrator has physical memory added to the server and closes the ticket. The BMC Remedy database contains information about the incident and the resolution, as well as outage statistics that the operations staff can use to calculate service levels.

The administrator decides to create a new parameter to help detect this problem in the future. He adds a counter to BMC Performance Manager that monitors the time required for disk transfer. He also creates a new composite parameter that indicates the percentage of disk time used for paging; it will determine whether a memory shortage is affecting disk performance. Now, whenever this condition occurs, an alert will be generated automatically.

Lastly, the administrator incorporates this alert into the service model, so that BMC Service Impact Manager will be able to specify the business impact of this alert whenever it occurs.

## Conclusion

With BMC Performance Manager, you can monitor your whole IT environment without incurring additional costs. Most likely, BMC Performance Manager actually can reduce your total cost of ownership (TCO) when compared to traditional agent-based solutions. It is quicker to deploy, easier to attend, and easier to use – and it provides value sooner than competitive solutions.

If you are using a competitive solution, ask yourself what your TCO is, and your return on investment. Have you been able to deploy the solution on every system, to be proactive across your enterprise, or have you had to leave many important systems unmanaged? Is the solution costly to update, configure, and customize? Are you gaining the full benefits of automation? Integration? Depth of performance? Do you have the most efficient, most state-of-the-art technology available today?

Regarding any and all of these questions, BMC Performance Manager and a proactive incident and problem management approach can put your mind at ease.

Characteristic	How BMC Performance Manager Delivers It
<b>Early warning system</b>	Constantly and diligently manages every system in the IT environment, at an affordable cost Identifies incidents before they escalate into problems that affect service
<b>Automated recovery</b>	Automatically corrects a wide variety of problems that would otherwise have to be solved manually; often corrects problems before they affect service When it cannot automatically solve a problem, speeds problem resolution by supplying service desk associates with events that contain useful information
<b>Integration with the trouble-ticketing system</b>	Automatically opens trouble tickets in and communicates with BMC Remedy Service Desk throughout the life of the incident – keeping service desk associates and users “in the loop”
<b>Integration with the service impact management system and other systems</b>	Communicates directly with BMC Service Impact Manager to determine the true business priority of any incident or event Maintains the enterprisewide view in a configuration management database (CMDB) based on ITIL process guidelines Enables processes and Business Service Management workflows that transcend IT disciplines
<b>Depth of functionality</b>	Works in depth with a wide variety of systems and applications Includes out-of-the-box automated routines that step administrators through problem-solving

Table 1: BMC Performance Manager is the only software solution that has all the characteristics of a proactive systems management solution, enabling proactive incident and problem management.



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## About BMC Software

BMC Software, Inc. [NYSE:BMC], is a leading provider of enterprise management solutions that empower companies to manage their IT infrastructure from a business perspective. Delivering Business Service Management, BMC Software solutions span enterprise systems, applications, databases and service management. Founded in 1980, BMC Software has offices worldwide and fiscal 2004 revenues of more than \$1.4 billion. For more information about BMC Software, visit [www.bmc.com](http://www.bmc.com).

