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ACTIVATE BUSINESS WITH THE POWER OF I.T.™

The Value of Service Optimization

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Executive Summary

Service Optimization is a disciplined approach to increasing IT performance while reducing IT costs. It can help deliver higher margins and more value for businesses, changing the perception of IT from a cost center to a value center.

Service Optimization identifies underperforming infrastructure and application management processes within the data center, and then systematically makes them more effective by means of best practices and intelligent automation.

Service Optimization can not only reduce operating expense but also improve operating performance for the business. It can deliver business-changing, cost-saving improvements in four areas:

> Business availability

> Application performance

> Staff productivity

> Risk mitigation

Mainframe infrastructure management activities are often overlooked as a source of business value, but they are ideal targets for Service Optimization.

BMC Software has developed a Service Optimization Maturity Model that can help you through the process of implementing Service Optimization and moving up the maturity curve. This model includes individual Service Optimization assessments for systems management, database management, and other infrastructure disciplines: short assessments that can be completed typically in less than a day.

Our Service Optimization Maturity Model is based on our extensive field experience working with customers since 1980 to make their IT infrastructures more responsive to business needs. BMC solutions were built for the largest, most complex data centers specifically to provide high availability and performance, and they are used by 98 of the *Forbes* Global 100 companies. We give our customers billions of dollars a year in cost savings and business value; you will read about some of these customers in the following pages.

Service Optimization lets you turn technical processes into strategic value for the business — and make the IT department a valued contributor to the business. You can look heroic without having to go through heroics.

To learn more, visit the BMC Service Optimization Knowledge Center at www.bmc.com/save.

The New IT Challenge: Improve the Bottom Line

Senior management continues to demand more of IT departments.

IT professionals are expected to deliver high service levels to support the business, even as they are being asked to cut costs. Beyond this "day job," however, they are increasingly being asked to demonstrate how IT can help improve the bottom line and enhance business competitiveness. Achieving this — delivering more for less — requires getting creative at extracting more business value from finite resources.

Service Optimization can ignite that creative spark. It is a disciplined approach to increasing service performance while reducing costs. It can help deliver higher margins and more shareholder value for businesses.

Service Optimization identifies underperforming infrastructure management processes within the data center, and then systematically makes them more effective by means of best practices and intelligent automation.[1]

Mainframe infrastructure management processes are ideal targets for Service Optimization. Mainframes are important to the business and they are expensive to operate.

The IBM mainframe hosts over $1 trillion worth of business-critical application investments and 80 to 90 percent of the world's largest databases, and it has become the central platform for the most important SOA initiatives and developments at many enterprises, according to a May 2008 report from Credit Suisse.[2] In BMC Software's third annual worldwide survey of mainframe customers (2008), 61% of respondents reported that they anticipate MIPS growth over the next year.

So, mainframes are both a big asset and a big challenge to IT departments seeking to improve the bottom line.

Service Optimization can help reduce the operating expense of mainframes while improving operating performance for the business. It delivers business-changing, cost-saving improvements in four key areas:

> Business availability
> Application performance
> Staff productivity
> Risk mitigation

How Service Optimization Improves Business Availability

If applications and services aren't available, the business can lose revenue and customers. So, ensuring high service levels is critical. But it's also expensive.

Service Optimization can help you improve the availability of applications and services, while reducing the cost of doing so. It can reduce the duration of unplanned outages, as well as shorten the time of planned outages for system maintenance or database changes.

For example: much of the time involved in recovering from a problem is spent in figuring out what to do. By implementing predefined, automated recovery procedures, you eliminate that "think time." You also eliminate manual errors — such as inadvertently skipping step 5 in an 11-step recovery process — that could prolong the outage or compound the problem. This kind of intelligent automation can significantly reduce the amount of time an application is offline and unavailable to customers.

Change management is perhaps the most important area where Service Optimization can make a difference. Changes are necessary to keep applications effective and efficient, but one change can have a ripple effect that can affect many databases and applications — increasing the window for a planned outage.

Before the Internet era, planned outages — to do database or systems maintenance, or run batch jobs — used to be straightforward: businesses would do their planned outages on Sundays. Today, business transaction systems need to run 24x7, shrinking maintenance or batch windows to zero. Meanwhile, transaction loads are increasing: in some companies it takes *more* than 24 hours to do maintenance, so the business can't open its doors on time.

Technology is currently available that enables safe system maintenance *in parallel with* business-critical transactions using intelligent automation. For example, you can perform database maintenance without taking the database offline: you can perform online reorganizations, online image copies, online loads/unloads, and online change management.

Another technology optimizes batch processes to shrink batch windows.

By using intelligent automation, IT shops can enable batch-job management processes to dynamically optimize themselves. For example, you can scientifically break up and distribute batch workloads across different systems, enabling work to be done in parallel to shorten batch windows.

By taking advantage of technologies like these, businesses have prevented disruption to business availability by reducing the time required for planned outages — dramatically in many cases.

Example: A worldwide financial services company has a complex DB2 environment deployed across many DB2 subsystems and LPARs, which supports a critical banking application. The company had a major upgrade that would require a significant planned outage. By optimizing its batch process, the company reduced a *36-hour* planned outage to *1 hour* and modified the application without incident.

Example: Another large financial company was struggling with shrinking batch windows as business demand for online database availability increased. The business simply could not afford to have the database offline for too long; however, neither could it afford the considerable risk involved in changing its production environment (by making invasive changes to its existing job streams or by reallocating computing resources).

By using batch optimization, the company was able to reduce its batch windows significantly without invasive changes to its production environment or applications and without investing in new hardware. Online application availability increased, and the company got more value from its existing computing environment by increasing machine usage to 100 percent in the previously non-peak hours.

In fact, the company once accidentally shut down its optimizing software (BMC MAINVIEW Batch Optimizer), and its batch run soared from 5 hours to 19 hours. Needless to say, the IT department has never made that mistake again.

Other businesses have significantly reduced or eliminated unplanned outages by optimizing database and systems management processes.

Example: A leading European bank virtually eliminated outages for its IMS databases, which support its critical banking applications.

Example: A large European retailer used BMC MAINVIEW automated alarm and alert capabilities to build an automated, proactive notification and problem resolution process for credit-card transaction processing. The IT staff is now able to spot problems and correct them before they affect the transactions — particularly important for this retailer because it also processes credit-card transactions for many other retailers.

Regardless of the size of your company, the savings from automated recovery processes, online database maintenance, and batch optimization can be significant enough to improve your company's strength and influence its valuation.

How Service Optimization Improves Application Performance

Beyond keeping applications available, Service Optimization can help you get more "miles per gallon" from applications.

It can help you handle transaction workloads using less hardware resource (CPU cycles, storage) and incurring less software cost (which is usually tied to the hardware investment). It can help you postpone upgrades, and it can reduce your carbon footprint: the floor space, heating, cooling, utility and environmental costs associated with each system.

There are best practices for application and database tuning and for incident management that enable you to optimize your online transaction environment.

For example, using automated application and SQL tuning, you could identify inefficient code in a piece of an application that runs several million times a day and optimize the code to run better; this might save you as much as 10 percent of your CPU cycles every day.

Example: Using SQL tuning, a leading manufacturer of heavy equipment was able to reduce the cost of a problem transaction by 99 percent, saving the associated application more than $340,000 in operating costs over the next year.

Application and database tuning can also include automatic reviews of SQL statements *before* they go into production, potentially preventing a sub-second transaction from becoming a 3-minute transaction.

Particularly when deployed across an enterprise applications portfolio, this kind of optimization can deliver significant savings. It lets you scale to accommodate transaction growth without having to add hardware, while providing snappier service levels to customers.

Intelligently automating even discrete processes — such as job restart — can pay huge dividends. In the case of job restart, intelligent automation eliminates the need for an IT staffer to watch for failures and determine how to restart when a job aborts. Instead, the software does the thinking.

Using BMC Software tools to optimize processes like those above, customers have improved application performance and achieved CPU savings as high as 70 percent.

How Service Optimization Improves Staff Productivity

Service Optimization can help control the cost of staffing while delivering more service to the business.

By optimizing your mainframe management processes, you can eliminate excess work. So you can manage more systems, more workloads, and more transaction loads with current or fewer staff people. You can scale to accommodate business growth without a corresponding increase in people costs.

Intelligent automation can help speed and simplify problem isolation, change control, and other labor-intensive tasks, and reduce the chance of manual errors that require "re-do's." It can dramatically reduce the number of steps involved in complex management processes such as application restart/control and change management — creating more efficient, repeatable workflows. It can even enable "no-eyes, hands-free" management of complex tasks such as SQL and database schema management. So, you can manage larger and more diverse IT environments without adding people or specialized skills.

People become more interchangeable, so you can more easily reallocate them (and their costs) to more valuable activities. Instead of having an IT technician stare at a green screen, watch for errors, and hit the right combination of keys — something that is easily automated today — the technician can work at putting a new business service in place — something that *isn't* easily automated. The business gets more value, and the technician gets more job satisfaction.

Particularly in shops with mainframes, businesses depend on highly experienced, highly paid experts with deep knowledge of the mainframe and its idiosyncrasies. When these "wizards" retire, it may take several people to replace a single wizard — assuming you can even *find* the people. Intelligent automation can lessen your dependence on these wizards and your vulnerability to the "mainframe brain drain." You can do more with fewer people.

The savings from improved staff productivity can be substantial; there are additional savings from the reduction of incidents that occur when complex processes are automated.

Example: A leading online retailer saved almost $2 million in less than a year by automating the file transfer process that links the business with its vendors and suppliers. The process manages orders, inventories, and communications with thousands of vendors and suppliers: mostly smaller, "mom-and-pop" businesses that don't use sophisticated technology. The process required a full-time team of more than 20 IT staffers to manually watch for incoming transfers and process them.

Using a new process automated with Advanced File Transfer technology, the retailer was able to completely automate the process: it now watches for transfers, processes the files, and restarts the process in the event of failures. Errors have been reduced, and most of the staff have been redeployed to other, more-valuable activities.

Example: An online brokerage firm got very creative in automating change management for its production environment without increasing risk. The firm automated the change-management process, which formerly had consumed significant amounts of time from two database administrators (DBAs) and more than 350 developers because every change required a manual review and approval.

By automating the process, the firm now uses software instead of people to "triage" every DB2 program change; the software automatically approves changes that it deems are of little or no impact, while the rest are flagged and escalated for review. As a result, today about 60 percent of changes are automatically approved, saving hundreds of hours per month in DBA and developer time. The solution also found changes that would have dramatically increased CPU consumption. The savings, in people time and cost avoidance, were in the hundreds of thousands of dollars annually.

How Service Optimization Improves Risk Mitigation

Because business processes are so heavily dependent on IT, mainframe IT managers are in a great position to help mitigate business risk.

Service Optimization can reduce risk in the critical area of regulatory compliance. Sarbanes-Oxley, HIPAA, Basel II and other regulations have very specific requirements for business-process controls, such as change management, and for demonstrating compliance with those controls.

Businesses spend heavily on compliance. Because compliance diverts people from activities that make money for the business, anything you can do to make compliance more efficient contributes to the bottom line.

By automating manual processes for making and documenting changes to IT systems, you can reduce the time and cost of meeting audit and compliance requirements — helping avoid fines or criminal penalties for noncompliance.

Automated backup and recovery of databases can strengthen the audit trail, and reduce the time it takes to respond to queries from regulators. You can help demonstrate to regulators that the company has automated processes and workflows instead of manual processes using spreadsheets and paper.

There are a number of solutions that can help speed compliance (reducing the number of people involved and the amount of time it takes) and strengthen compliance (avoiding fines and penalties). These solutions secure data (data encryption), report access to data (built-in reporting) and maintain good audit trails (backup and recovery of data from system failures or job restarts).

Service Optimization can also help you reduce the risk of lost customers or revenue when the business is unavailable — or available but less than responsive to customers and partners (if your business isn't responsive, it might as well be unavailable).

By automating processes such as backup/recovery and restart, you can significantly reduce the number of hardware and software failures and enable faster recoveries from failures. About 80 percent of problems that affect business continuity are due to changes to business processes or IT systems — both authorized and unauthorized changes. There are very advanced software solutions that manage change to reduce risk. The solutions take a baseline picture of the process or system before every change, which enables quick back-out in the event an authorized change fails or an unauthorized change corrupts a system or violates process controls.

Example: A major US bank used the back-out feature to remove a change, which dramatically reduced the outage for a business-critical clearinghouse application. With automation, the application was back online in 10 minutes; without automation, a standard recovery would have taken 10 hours, the bank estimated. Potential savings: anywhere from $295,000 to $2,950,000 per outage, based on a cost-per-minute of $500 to $5,000 for banking applications[3] (exclusive of any fines or penalties). The bank has had to recover this application at least once a year for the last three years.

The Bottom Line: Cost Savings

BMC Software can assist you in making mainframe IT operations more efficient using the techniques, processes, and technology outlined above. You can dramatically reduce IT operating costs in many cases. You can then reallocate operating expense from mainframe maintenance to application or business-service development.

Further, by adopting Service Optimization as a philosophy — not just as a quick-fix for a problem area or two — you can prevent IT "cost creep" as the business grows, because you are continually optimizing based on business needs.

Beyond saving money, Service Optimization can also help increase revenues by improving business availability, application performance and transaction speed — making the business more attractive to customers and less susceptible to customer defections.

You can help the business make money and save money — and be able to demonstrate this to senior management.

How to Get Started with Service Optimization

Here is how to get started.

First, identify problem or opportunity areas for the business. Ask yourself questions such as:

> "Which processes generate the most calls from my customers or the CIO when they break?"

> "Which processes take the most time and effort from my staff to maintain or troubleshoot?"

> "Which IT service areas are in the most need of improved service levels?"

> "What are the main causes of my planned and unplanned outages?"

> "Where could modified or additional processes optimize the IT infrastructure and use it to deliver the most valuable service to the business?"

Then, identify the technical processes that most affect the problems or opportunities. Calculate their business costs, by looking at measurements such as the value of availability, the cost of capacity, the cost of people, and the cost of an incident.

Finally, use best-in-class tools and established best practices (including ITIL® processes or practices gleaned from benchmarking your competitors) to streamline these processes and automate them to make them more efficient.

Some of the automation technologies you need may already be resident in your shop or may be relatively easy to acquire and cost-justify.

And sit back and congratulate yourself on the savings.

BMC Software can help you implement Service Optimization and move up the maturity curve. We have developed a Service Optimization Maturity Model and assessments: short lists of questions that typically can be answered in less than a day. Our Service Optimization Maturity Model is based on our extensive field experience working with customers since 1980 to make their IT infrastructures more responsive to business needs. We help our customers realize billions of dollars a year in cost savings and business value.

To learn more, visit the BMC Service Optimization Knowledge Center at http://www.bmc.com/save.

End Notes

1 Intelligent automation is automation that has native intelligence of the environment and uses technologies such as advanced monitors, sophisticated alerts, advisor technology (which quickly identifies performance problems and makes expert recommendations for corrective action), and automated responses.

2 Equity Research Report: *Software IQ: Mainframe's Alive!*, Credit Suisse, May 14, 2008.

3 Typical range for banking applications.

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About BMC Software

BMC Software delivers the solutions IT needs to increase business value through better management of technology and IT processes. Our industry-leading Business Service Management solutions help you reduce cost, lower risk of business disruption, and benefit from an IT infrastructure built to support business growth and flexibility. Only BMC provides best-practice IT processes, automated technology management, and award-winning BMC Atrium technologies that offer a shared view into how IT services support business priorities. Known for enterprise solutions that span mainframe, distributed systems, and end-user devices, BMC also delivers solutions that address the unique challenges of the midsized business. Founded in 1980, BMC has offices worldwide and fiscal 2008 revenues of $1.73 billion. Activate your business with the power of IT. www.bmc.com

To learn more about how BMC can help activate your business, visit www.bmc.com or call (800) 841-2031.