Four Steps to Dynamic Workload Management
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>DYNAMIC WORKLOAD MANAGEMENT</td>
<td>1</td>
</tr>
<tr>
<td>OBSTACLES TO MOVING TO DYNAMIC WORKLOAD MANAGEMENT</td>
<td>4</td>
</tr>
</tbody>
</table>
INTRODUCTION
In the beginning, IT ran on one platform - the mainframe. Workloads were predictable and stable, and we could schedule accordingly. But then came Unix, AS/400, Windows and a multitude of other platforms, all with accompanying workloads. The Internet and the need for 24 x 7 availability changed the workload model – “stable and predictable” flew out the window. Through all of this, the data center still has the same goal: manage the workloads to provide the highest level of service at the lowest cost.

The only way to provide optimal service at a reasonable cost is to automate. But automating the data center is easier said than done. Over the years, you have adopted a variety of platforms, applications, tools, and processes that may have worked well independently but do not necessarily work efficiently together. Ever-changing workloads present challenges that we could not have imagined just a few years ago. You may realize that the tools and processes you have are costly in terms of overhead, and it’s hard for your organization to grow and remain competitive when you are burdened with extra costs.

Adding more people to handle more work is not always the answer because eventually you reach a point of diminishing returns. At what point does automation become less expensive than current tools, processes, and people?

DYNAMIC WORKLOAD MANAGEMENT
Workload automation has evolved from traditional job scheduling based on date/time criteria and static business needs to a dynamic model that is based on fluctuating workloads and changing business needs. Effective workload automation coordinates varied workload types with complex dependencies across multiple operating systems and platforms – in real time. While some workloads are still driven by date/time dependencies, real-time IT processing brings a new set of workload challenges. Some IT organizations have been trying to meet these challenges by adding more people, but if you add people without also implementing intelligent automation, you can quickly reach the point of diminishing returns.

To automate cost-effectively, you need a single workload automation scheme and framework that meets the needs of your applications, your multi-tiered infrastructure, and your business. BMC Control-M provides effective dynamic workload management. It:

» Supports all platforms and applications in your enterprise.
» Provides a consistent look and feel for managing platforms and jobs
» Shows how workloads affect your business goals and SLAs
» Enables planning and provisioning

Let’s look at each of these areas more closely.

SUPPORT ALL PLATFORMS
How many platforms does your IT organization support today? How many applications touch multiple platforms? What integration points do you have? And how much have all of these changed in the past year? You need a solution that provides enterprise-wide, end-to-end workload management.

The different platforms are not the only issue; processes often differ between platforms. ERP and custom applications add more complexity. The very nature of “batch” production itself has changed from a date/time model to an event-and-transaction model. Standardizing and automation across platforms, applications, and the batch jobs being processed can seem like a gargantuan task. Adding to these complications, increasing mergers and acquisitions require IT to quickly absorb or integrate varied and geographically dispersed infrastructures.

BMC Control-M integrates the management of critical workload processes from a single point of control. Cross-application and cross-platform scheduling capabilities (such as job dependencies, workload balancing, and event-based job execution) enable business growth and prevent scheduling problems from developing.
into business problems. BMC Control-M eliminates the need for multiple schedulers, providing a higher level of integration and a lower learning curve. And it enables integration of applications, including legacy, ERP, CRM, Java, Web Services, and more.

**EXAMPLE**

An online retailer/service bureau maintains a database of over 6 billion records. They use multiple platforms (Windows, Linux, and VMS), and updates come from hundreds of sources each day. Batch processing jobs keep the databases current by incorporating new information gleaned from these many disparate sources. The volume of updates drove the need to automate. The retailer needed a dynamic workload management solution that could monitor their e-mail and FTP systems for requests, start the appropriate batch job automatically when a file arrives, and deliver the resulting output to the requestor or to other downstream jobs.

BMC Control-M integrated their platforms and automated a process that touches multiple applications.

**CONSISTENT LOOK AND FEEL**

Your IT staff is one of your most valuable assets, and they need to be as productive as possible. Workloads are larger and more dynamic than ever. Operators, job schedulers and the production control team must monitor and manage the high volume of jobs, but this is just one of their many tasks. Your staff needs to be able to do more, more efficiently. They don't have the time or bandwidth to manage jobs on different platforms with different user interfaces. BMC Control-M provides the same look and feel across the environment. If your staff can understand the workload management interface, they don't need expertise in different platforms or applications.

With consistency across platforms, you can do more with less.

**EXAMPLE**

A computer manufacturer realized the value of implementing a tool with a consistent look and feel across all platforms. They increased the number of jobs from 12,000 to more than 85,000 – at over 13,000 locations – and used fewer people to manage the workload. They found that they could deploy workload automation to any platform and any application with only minor effort. This consistency and scalability helped the manufacture reduce and shorten outages.

Jobs look the same and have identical characteristics, regardless of the platform or application they support.

**BUSINESS IMPACT**

Knowing that a job has failed is one thing, but knowing what that means to the business is a whole different ballgame. For example, an operator who is monitoring workloads may get an alert like “Job x57xa3 failed”. But what does this really mean? This failure could set off a chain of events where many people get involved – some unnecessarily – and use time and resources to determine what the error means and how to fix it. This cryptic alert does not show the business impact of the job failure.

A more meaningful alert would say “The payroll process is at risk due to the failure of job T4Z00Y12. If this problem is not resolved by 4:30 AM, the payroll SLA will be missed.” A robust alert shows not only the failure but
also the impact it has on other processes and it recommends solutions. Because this type of intelligence provides visibility into business processes, it allows you to set priorities and correct the problems that will have the most impact first.

It’s important to fix a problem correctly the first time and to ensure that a fix on application A does not cause a failure on application B. BMC Control-M provides this information so that you reduce the risk of failures and save the time and effort of correcting problems multiple times.

Smart alerts provide information about business impact

EXAMPLE
An online retailer needed to understand the impact of batch jobs on their ability to meet SLAs. They needed to be able to define and manage batch flows on a business process level instead of the job level. They chose BMC Control-M, which monitors the progress of each batch job, watching for conditions that might cause a failure or degrade performance in a way that would jeopardize service levels and alerting staff when intervention is required. By implementing BMC Control-M, they reduced manual tasks by 40–50 percent in the first two years and were able to absorb a rapidly expanding workload without hiring a lot of people.

All of the company’s revenue-generating activities occur electronically, so when the IT systems are down, they are not making money. And outages have a ripple effect because partners and users also cannot do business when the company has an outage. Because they can see the business impact of events, they have the situational awareness that enables the staff to quickly identify which events threaten to disrupt services. Consequently, technical personnel can prioritize their actions, addressing the most critical issues first to ensure that the company can deliver its product to consumers and business partners.

PLANNING AND PROVISIONING
Workloads fluctuate. Sometimes you can predict when workloads will rise, but planning for dynamic workloads can be a challenge. Intelligent dynamic workload management solutions provide forecasting information based on prior workloads, and they enable you to use “what-if?” scenarios. For example, a cable television provider can use “what-if?” scenarios to determine what resources they need for the hour preceding a pay-per-view event.

The payroll process is at risk due to the failure of job T4Z00Y12. If this problem is not resolved by 4:30 AM, the payroll SLA will be missed.

Sample report showing how changes could affect workloads
The IT environment for a large discount retailer that has thousands of stores and an online shop got so complex that they could implement changes to systems, applications, and processes only once a year. They chose a two-week window around Easter each year to implement hardware, software, and application changes from the past 50 weeks. They were not able to determine the impact of these changes on the related systems and applications, and they typically had 18 unplanned outages each year after the Easter change. Unplanned outages are very costly for online retailers because customers can simply click to another website. By implementing BMC Control-M, the retailer was able to assess the impact of planned changes and adjust them accordingly before implementing them. The first year they implemented BMC Control-M, they had no unplanned outages. The value of impact assessment is clear: preventing problems is much easier and cheaper than fixing them.

OBSTACLES TO MOVING TO DYNAMIC WORKLOAD MANAGEMENT

Often, existing job scheduling software lingers, even if it does not provide intelligence and automation, because of the fear of the costs and risks of conversion. BMC Control-M is modular, easy to use, and breaks down the barriers to implementing dynamic workload management. BMC Software provides the support you need. With BMC Control-M, the rewards are high: rapid integration between change management, event management, workload automation, problem management, and impact management, and higher efficiency, availability, and visibility of IT processes.

Dynamic workload automation brings efficiency, agility, and cost savings. It makes sense right now because a well-constructed, well-integrated, and well-supported dynamic workload automation solution enables you to corral complex enterprise-wide IT processes with measured, cost-effective, low-risk initiatives.

Business runs on IT. IT runs on BMC Software.

Business thrives when IT runs smarter, faster and stronger. That’s why the most demanding IT organizations in the world rely on BMC Software across both distributed and mainframe environments. Recognized as the leader in Business Service Management, BMC offers a comprehensive approach and unified platform that helps IT organizations cut cost, reduce risk and drive business profit. For the four fiscal quarters ended June 30, 2010, BMC revenue was approximately $1.92 billion.