

# Batch Scheduling in the SAP Environment

## INTRODUCTION

Companies gain a competitive edge when they quickly implement sophisticated enterprise resource planning (ERP), customer relationship management (CRM), and supply-chain management (SCM) modules and integrate them with their homegrown, as well as legacy systems. A company's competitive advantage lies in its ability to supply elite standards of service, which depends largely on its ability to assure a smooth business flow with efficient processing that completes on time.

Scheduling has always played a key role in an IT department's ability to deliver high quality service and achieve business success. As SAP implementations are becoming more comprehensive and sophisticated, the quantity and complexity of its related business-critical processes grow. In fact, most critical SAP processes comprise multi-step, compound processes that span across several SAP instances and interrelate with external applications and platforms. Most of these processes run in batch, and require a high level of inter-application integration as well as advanced management, both within and outside of the SAP environment.

In order to get the most out of your SAP implementation, an advanced business-integrated scheduling solution is required. Such a solution should not only complement the SAP CCMS management framework, but should also tightly integrate with it.

To illustrate just how vital batch-process integration is to your business, let's examine the procedure involved in handling a typical order and purchase business process:

## THE IMPORTANCE OF BATCH SCHEDULING IN YOUR SAP ENVIRONMENT

To truly understand the value of an advanced scheduling solution in your SAP environment, it is necessary to grasp the complexities of production environments.

- > The company's Website receives online orders 24x7 from its various dealers and customers.
- > The Website sends accumulated transactions to the company's SAP CRM module, wherein customer requests are regularly updated.
- > Accumulated customer orders are sent, via FTP, to the z/OS system, where inventory is checked against outstanding orders. If the necessary units are in inventory but need to be relocated, a relocation request is issued.
- > If the units are not in inventory, the SCM system calculates the exact number of units to be manufactured. Additionally, the system computes the number of components to be ordered such as chips, screens, buttons and so on, and issues orders accordingly.
- > The SAP finance module receives information from the z/OS, CRM and SCM systems. It issues purchase orders and invoices, processes various reports as well as updates and balances current and future company expenses.
- > After all processes have been completed, the CRM module is updated to reflect order fulfillment, including delivery date, location, price and more.

As can be shown from the example above, there are 2 aspects to the need for batch integration:

- Integrating processes within the SAP system - Some processes run between several SAP modules or instances but are still a part of a single business process.
- Integrating processes running across multiple platforms and applications outside the SAP system - These applications include legacy, industry specific, homegrown applications and more.

An innovative scheduling solution capable of delivering core-scheduling capabilities, while providing the infrastructure and technologies necessary for enterprise integration is vital. Such a scheduler is best described as a business-integrated scheduler.

## ADVANCED ENTERPRISE-WIDE SCHEDULING CAPABILITIES

The implementation of a business-integrated scheduling solution can ensure complete and efficient business process management. By tightly integrating SAP with other external systems, the solution can assure a unified business environment and guarantees a positive end-user experience. To achieve the above, a business-integrated scheduling solution must have the following capabilities:

- Provide a consolidated method for managing batch processing across the entire enterprise - including SAP jobs. It should provide a graphical focal point of management for the entire enterprise, regardless of the platform, application or SAP instance.
- Define, schedule, monitor and control SAP jobs, including ABAP/4 programs, external programs and batch input processing. Users must be allowed to create, manipulate and monitor batch input sessions as standard SAP jobs.
- Eliminate unnecessary downtime by not only locating errors, but also allowing you to take efficient corrective actions - from a focal point. It must provide enhanced problem resolution capabilities such as job script editing or the rerunning of a job, thus shortening problem resolution cycles and significantly improving enterprise productivity.
- Offer interactive management-by-exception abilities that take you beyond job-status monitoring with proactive, multi-destination error notification to further increase enterprise efficiency.
- Maximize process automation by providing dynamic cross-platform and cross-application scheduling capabilities, such as multiple job dependencies.
- Inspect job output files and logs and submit the right automated action to recover from failures during business process execution. For example, if a job's output indicates failure due to an "ABA004E output file overflow", it should be possible to analyze the error text and automatically initiate the necessary recovery process – in this case backing up and emptying the overflowed file.
- Supply high level of bi-directional integration with SAP and the ability to relate to internal SAP mechanisms and data.
- Offer SAP-oriented job definition forms that maintain the same look, feel and terminology used in SM36 job definition transactions. These forms should significantly minimize human errors and increase productivity by enabling SAP users to retrieve job definition information directly from within SAP and select elements, such as job names, ABAP program names and variants, from lists taken directly from SAP.
- Enable administrators for SAP solutions to manage and monitor dynamic "mass-parallel" jobs, ensuring successful, on-time business process completion.
- Provide a prioritizing mechanism to allow administrators to control and pre-define a set of rules to manage ad-hoc jobs, thereby eliminating uncontrolled workloads that can potentially prevent companies from meeting business goals.

A batch-specific management solution must provide efficient enterprise-wide problem detection and resolution tools to prevent and recover from production delays. Additionally, the solution must provide enhanced management capabilities through an advanced user interface. It must be possible to easily and intuitively detect problems, analyze their source, resolve them and verify their resolution from a focal point of control, via a unified interface. The implementation of such a solution must minimize the occurrence of human errors, provide superior management capabilities and therefore reduce production delays and downtime.

## CONNECTING TO YOUR BUSINESS PARTNERS

A lot of the processes in the SAP environment are triggered by end-users or business partners utilizing the advanced web based capabilities of the mySAP offering. These processes must be tightly integrated into the production environment and should be managed as business critical processes. This challenge dictates a solution that is capable of integrating processes from business partners and Web end users to your back office. Such a solution should provide the ability to dynamically convert requests triggered via the Web into appropriate job definitions thus; your Web-based applications are incorporated into the production environment seamlessly.

In an era fueled by Internet applications, your environment is becoming even more complicated. Batch integration is required not only for the applications within your organization, but also for your business partners' external applications. All your processes, from all the various applications and platforms, must be integrated into one unified business process. Proper integration of your environment is vital for your business success.

PROACTIVE SCHEDULING FOR SAP

To assure the highest service levels and productivity, as well as minimize operation costs, organizations should implement a business-integrated scheduling solution that enables scheduling decisions that are driven not only by time specifications, but also by system, application and business events. Such a business-integrated scheduling solution should be capable of allowing real-time events to trigger jobs. That is, information regarding the status of critical SAP components and resource availability can automatically and dynamically change the course of a batch process to ensure a smooth business process flow.

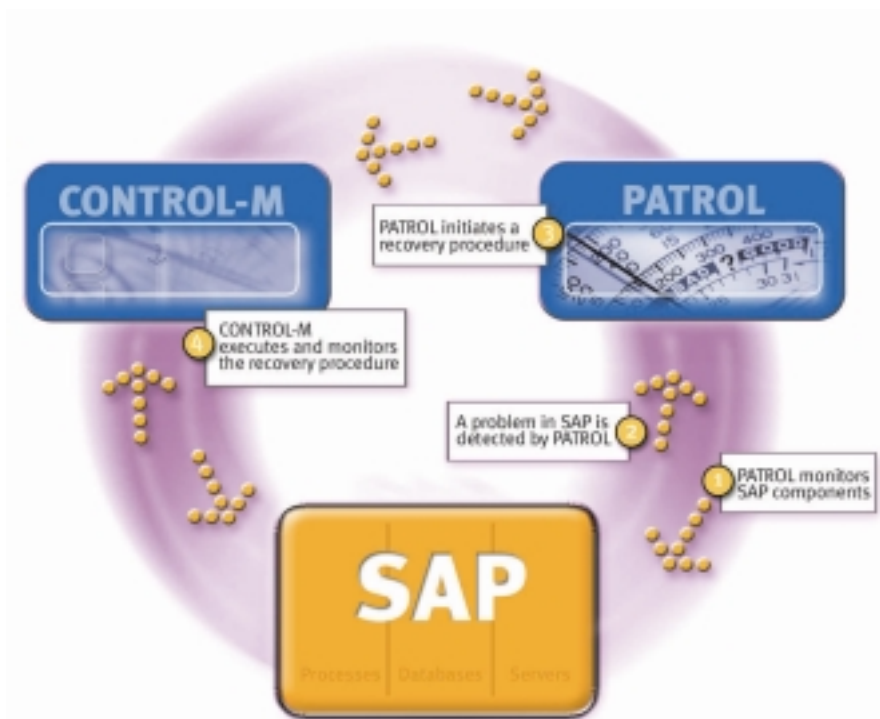


Figure 3: Event-based scheduling

For example, a SAP user attempting to run a report on a heavily loaded server can significantly increase the database response time and even harm the database's overall service level. However, with event-based scheduling, the job can be redirected to an available server or postponed to run at a later time according to resource availability – allowing only the right amount of jobs to run, eliminating downtime and maximizing service levels. This unique solution enables efficient workload balancing and automatic recovery procedures that assure the highest SAP and enterprise-wide system availability and performance. By eliminating the need for manual intervention, lowering resolution time and assuring quick problem detection and ramification, the business-integrated scheduling solution's capabilities assure the highest availability and that service levels are continuously met.

### SUMMARY

Utilizing an external, enterprise-wide business-integrated scheduling solution completes the SAP CCMS offering and enhances SAP implementations in compound environments. It is the recommended way to assure the highest possible service levels by merging the management of all batch processing across your enterprise into a unified manageable business environment.

### THE BMC SOFTWARE SOLUTION

With over 20 years' experience in the batch scheduling market, BMC Software is the leading batch-scheduling vendor. BMC Software is committed to SAP users, and has joined forces with SAP AG to co-develop the new SAP batch scheduling standards (XBP2.0). This exclusive SAP-BMC Software collaboration established a new, enhanced scheduling interface for the SAP environment, enabling better management of your complex SAP scheduling needs.

No matter how large or complex your SAP system is, BMC Software keeps your SAP environment running optimally, 24x7. The BMC Software CONTROL-M® Business Integrated Scheduling solution offers robust, enterprise-wide scheduling from a single point of control for your entire enterprise. It ensures the availability and reliability of your SAP environment by integrating and managing your entire environment – proactively resolving problems before they financially impact the business. As the first scheduling solution to apply the new SAP XBP2.0 batch-scheduling standards, CONTROL-M makes BMC Software the first and only vendor to supply new, never before, business-critical functionalities. BMC Software is an SAP Software Partner, and its CONTROL-M solution has been certified by SAP.

In addition to BMC Software's vast experience, industry analysts and customers have recognized its CONTROL-M scheduling technology and solutions as market leading. In fact, in April 2002 its CONTROL-M® for SAP solution was ranked as an SAP Top 25 best-of-breed solution by SAPFAQ.COM – the only scheduling solution selected.



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 2003 revenues of more than \$1.3 billion. For more information about BMC Software, visit : [www.bmc.com](http://www.bmc.com).