



Workload Automation: Greater **Efficiency**, Greater **Competitiveness**

Business today is global, real time, and around-the-clock.

To help companies to compete,

IT executives must find ways to streamline operations. One of the best ways is through automation. Not only can automation enable continuous uptime globally, it can enable IT execs to run more efficient operations and quickly scale up IT infrastructure as the business grows and becomes more complex.

To be sure they are running the most efficient operations, IT professionals must examine whether IT automation is keeping pace with the dynamic, real-time nature of business, and how next-generation workload automation technologies can cut hidden costs.

From job scheduling to workload automation

Decades-old job schedulers have evolved into sophisticated workload automation tools that support growing dependency on IT services. Business demands such as revenue growth, profitability and compliance are some of the factors driving the need for automated IT operations, and job scheduling is no exception.

It may seem surprising, but about 70 percent of all business processes enabled by IT processing is scheduled, not done in real time. So having the automation to effectively schedule ever-growing workloads is essential. The ability to handle workloads more efficiently yields many benefits, freeing up IT resources to bring new applications online as needs dictate, and deploying resources to meet increasing user demand.

Time-based schedulers are giving way to event-driven schedulers that respond in real time to business events such as an online order. These schedulers are evolving with features that include automatic dynamic resource management, which helps ensure IT resources are available even during unexpected spikes in demand. To be truly effective, this automation must occur across the enterprise, encompassing applications, databases and heterogeneous architectures whether in physical, virtual or cloud-based environments.

Without workload automation, it's very difficult for a growing business to manage new and diverse applications, platforms and services.

In the July 2011 report, "Market Overview: IT Process Automation, Q3, 2011," Forrester Research Inc. said, "any IT organization that reaches a certain level of complexity needs a workload automation solution to ensure timely and accurate performance of its asynchronous processes."

Consider, for example, a fast-growing office supply company that adds a new application to its infrastructure every few months. Each application requires new supporting resources to ensure that the application and surrounding services are always available to users. This usually yields an array of different, independent systems for managing operations and workflow. Each platform and each system has its own job scheduler, which requires its own management and administration.

The result is many independent islands of automation that may do a good job managing a single workflow associated with one application on one platform, but do nothing to give administrators and end-to-end view of their infrastructure. Because each island of automation requires its own management and administration, costs can spiral out of control.

What CIOs need is one workload automation tool to manage multiple workloads across the enterprise.

Today's best workload automation tools go far beyond the job schedulers of the past. They organize complex workloads with intelligent, event-driven capabilities, support multivendor platforms and work with applications across virtual or physical environments.

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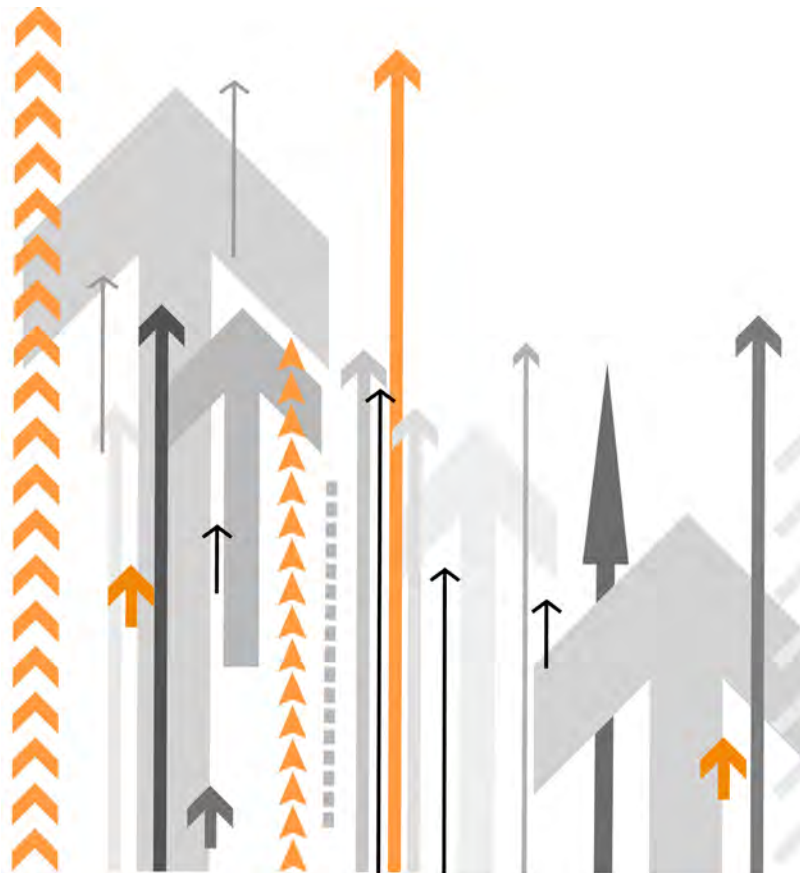
— Forrester Research Inc.
Market Overview: IT Process Automation, Q3, 2011 report

Further, they have evolved to provide a single-enterprise view for IT administrations to manage workloads across disparate applications and databases, taking into account the unpredictability of business today.

For example, if the marketing department is launching a promotion that may triple purchases, it's crucial that resources are available to support the new business, and service requirements of existing applications can still be met.

Witness the Sept. 2011 day-long shutdown of a major discount retailer's Web site after consumers flooded it hoping to buy limited-edition fashions. The increased Web traffic should have been anticipated by IT, given heavy up-front promotion by the retailer.

The company never disclosed the financial impact (if any) of the outage but the problem made national headlines that temporarily tarnished the retailer's image.



Measurable benefits

Selecting Workload automation links resources, applications and batch processing to create a centralized, efficient approach to job scheduling. The benefits are manifold. According to Enterprise Management Associates, companies with workload automation:

- ▶ Free 41 percent more IT staff for strategic projects
- ▶ Defer or eliminate an average of 50 percent of IT staffing requirements
- ▶ Reduce outage time by about 70 hours annually
- ▶ Raise service level agreement standards

Measuring the return on investment of workload automation depends on many company-specific factors. The most important are:

- ▶ The time required for batch processing
- ▶ The customization required to support workload integration
- ▶ The staff required to support workload automation
- ▶ The error rates in batch processing
- ▶ The ability to support new business requirements on the fly

Most data centers run a panoply of applications and operating systems on different hardware architectures, which may be hosted internally on physical servers, on virtual servers or even hosted in the cloud through a third party. The workloads for these applications very likely have dependencies. For example, product orders placed online may trigger actions related to supply chain, billing and inventory applications. To eliminate manual actions, workflow must be managed from a single, automated, end-to-end enterprise view so, for example, completion of one job on one platform triggers the start of another job on another platform.

Traditional workload automation tools provide a management component, but offer multiple views for management of different applications or platforms. This is ineffective and inefficient. What's needed is a single, enterprisewide view to enable managers to track all workloads, dynamically allocate resources based on business priorities and receive early warning of potential service problems in batch production.

End-to-end automation that manages workloads across all operating systems and databases helps companies effectively manage growth and enables a level of scale that is simply not otherwise practically possible.

One case in point: a Florida-based healthcare provider deployed workload automation to ease enterprise scheduling across its complex IT environment. Over the past few years, the technology enabled the organization to reduce operations staff by more than 50 percent while processing more than 50,000 jobs each day.

The provider is constantly keeping up with changes in healthcare reform by delivering new applications and changing existing ones. And with their workload automation solution's

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vice president
BMC research and development

impact analysis tools, managers can identify and solve problems in critical batch processing so they can deliver new services on time and on budget.

Addressing hidden costs

Many CIOs have already taken the obvious steps to reduce cost, including staff cuts, server consolidation, outsourcing and delaying hardware purchases, but they must go further and address a largely hidden cost lurking in many organizations.

Many IT organizations support multiple job schedulers, which they may not even realize has a significant impact on cost and complexity.

CIOs would be wise to conduct an audit of their current scheduling environment and consider the following:

- ▶ How many tools are being used for job scheduling?
- ▶ How many people outside of IT are doing their own scheduling?
- ▶ How often do you fail to meet service level agreements because transactions fail to process on time?
- ▶ How long does a typical compliance audit take?

After close examination, CIOs are likely to discover they are wasting money and manpower. Workload automation tools can reduce hidden costs by up to 30 percent in the following ways:

- ▶ Reduce the number of independent job schedulers to one, which eliminates inefficiencies, so fewer administrators are required to manage workloads
- ▶ Reduce costly errors stemming from inefficient job scheduling
- ▶ Improve service levels, for fewer penalties or fines; problem prediction and impact analysis allows for proactive management
- ▶ Enable flexibility to allocate IT resources on the fly to meet business demands that impact revenue

Workload automation, clouds and compliance

Traditional job scheduling tools simply can't effectively meet the demands of real-time 24/7 businesses. Jobs and transactions of any size can hit servers any time, and the infrastructure needs to be ready to process them right away.

Virtualization and cloud computing enable the flexible use of IT resources, helping ensure higher availability of resources tied to business needs. The best workload automation tools steer workloads to virtual or cloud-based servers with the capacity to handle them.

But virtual and cloud-based data centers pose new challenges around management of a mixed infrastructure that also includes critical legacy systems. Distributed environments brought about the need to coordinate different forms of job scheduling into a centralized solution. As a result, clouds and virtualization are accelerating the need for workload automation.

According to Gur Steif, vice president of BMC research and development and an expert in IT automation, "Workload automation solutions impact IT just as automated manufacturing lines impact factories. It's pretty much the only way you can increase throughput and quality without piling up additional costs. They have become a unifying technology that connects diverse applications and platforms from cloud to legacy environments."

Like cloud computing, new compliance regulations (particularly in healthcare and financial services) are having an enormous impact on IT. IT organizations must ensure key processes are fully automated, monitored and logged to satisfy both internal and external audits. Auditors must clearly see the flow of a transaction from initiation through reporting. Provisions in the Sarbanes-Oxley act, for example, require IT management to produce and retain reports that monitor the job scheduling process.

Job schedulers do have reporting capabilities but lack the comprehensiveness of best-in-class workload automation solutions, because they only gather information stemming from one platform or application. After gathering bits and pieces of information, administrators must then stitch it together. Tasks that should take minutes are taking hours or, more likely, days.

Workload automation that spans the enterprise (i.e., mainframe and distributed environments) enables administrators to log all activity, keep a record of changes and produce reports that meet compliance requirements.

Starting with self-service

When implementing automation, most IT organizations begin by automating routine, repetitive tasks and eventually move up to more complex IT service management processes. Forrester says automation of self-service is the "first stage where IT process automation meets business process automation."

IT can improve service delivery by minimizing delays caused by volumes of service requests. Users have access to an online service catalog, enabling them to initiate workload services that are important to them.

Business users and help desk personnel are more productive when the former can find the information they need on their own. Users request services and monitor their status, freeing IT from processing those requests.

This level of automation requires integration of all tools into a single platform, which offers easy access to users. Specifically, the automation system should provide an easy-to-use, self-service interface for users, a strong underlying automation engine and a comprehensive suite of integrated automation tools.

Cost savings will vary from company to company, but it's clear that when users can make inquiries and solve their own problems via self-service, the financial benefits can be substantial. Further, IT personnel are freed to engage in more strategic endeavors.

Conclusions

The volume and diversity of business applications and underlying components have complicated the tasks of IT professionals and made them more prone to human error. By masking this complexity and automating repetitive tasks, workload automation is the key to industrializing operations, improving productivity and reducing costs.

Business demands for real-time performance will force IT to respond with a real-time approach to every aspect of IT. The most competitive data centers of tomorrow will require real-time features in a workload automation solution.

Organizations that embark with discipline on the journey of workload automation will eventually reach the highest level—business-driven workload automation. At this level, automation enables IT to keep the infrastructure directly matched to business needs. The result is that IT delivers services more cost-effectively and reliably.

Business is getting faster, more dynamic and more complex. IT infrastructures must keep up. Best-in-class workload automation tools support these new business demands, giving the companies that deploy them a distinct competitive edge.



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