

# Elevating Business Value Using Workload Automation

## Dramatic Business Change

With the technology revolution that has taken place since the dawn of the Internet, business expectations and consumer requirements have changed dramatically. No longer do customers execute a business transaction and wait days for actions to be reflected or weeks for items to arrive.

Today's business customers expect immediate actions to be taken when they enter information on a website to conduct a transaction. This means that in order for businesses to be successful they must be able to immediately, or in short order, react to the customer's request and respond accordingly.

Never before have consumers, or customers, had such immediate access to information, like their bank balances, travel reservations, fashion, home goods, etc. Anyone can create an online business these days and sell their goods or services.

So, the competition is tough for today's businesses, and the larger the corporation the more difficult it can be to find that type of agility using the tools that have served them for years. They can no longer purchase technology just for the sake of implementing the latest technology. Purchasing decisions are now weighed against the *business value* they will provide.

It's no longer enough for technology to simply reduce or eliminate the amount of people required to manage the business data. Technology must be

proven to improve the ability to meet or exceed the business demands in a timely manner. Automation, specifically must be able to:

1. Improve the agility of the business
2. Enable business growth of the company

### **Job Scheduling is Not Enough**

Job Scheduling started in the late 70's and surprisingly many of the original products that were introduced are still in use today in many of the large Fortune 100 companies. But a few years ago we began to see an evolution begin with the traditional job schedulers and began to see a new term emerging, workload automation.

While job scheduling was initially about running mainframe JCL to process vast amounts of business data in the off hours, when the business users were not accessing the systems. It expanded in the 90's to include the distributed processing as well, and typically required another controlling management component.

But the users of the job scheduling products were having trouble expanding to the new varieties of methods in which business data was arriving. While the 'legacy' data that was being processed was vital, it was not a driving factor in the growth of the business, the attracting and retaining of new customers.

We began to see job scheduling begin to use, and abuse, terms like "event-driven", "real-time" and "dynamic". Many of the vendors were trying to

protect the millions of dollars of annual revenue generated from these legacy scheduling solutions and convince their customers they had an "event-driven" solution and that it was too risky to consider an alternative.

But, IT organizations who saw thru the vendor façade of simply renaming a job scheduling solution and calling it 'workload automation', began to embrace the true differentiators of an advanced Workload Automation solution. They were not only able to save money in licensing costs, decrease the amount of staff effort required for normal care and maintenance, but also increase their ability to service their customers.

They discovered that Workload Automation was about more than simply kicking off 'executables' in a predefined sequence at a specified time or the arrival of a file. They discovered that advanced workload automation allowed the triggering of the data processing, or the workload, to be done based on random or unexpected 'events', which could be a customer entering data on a website which resulted in a business transaction being initiated.

They realized that "automation" could take place at a very granular level, and this was no longer a software tool to be used only by the data centers. Many realized they needed to upgrade from the 'job scheduling' products to a full-function workload automation capable solution.

## Automation Rule #1

When automation first arrived in the data centers in the early 90's, there were two initial focuses, console automation and job scheduling. One of the founding principles of the original data center automation strategy was to "automate at the lowest level possible". In other words, get as close to the source of the action as possible.

Not surprisingly, over 25 years later, that same automation rule still applies and there is a new wave of automation required by businesses today. No longer can business rely on a data processing methodology that is stuck with old methods for initiating the processing of business data based on date/time driven techniques.

Even job scheduling or workload automation products that claimed to be "event-driven", really had nothing to do with a business event, those claims were made based on product terminology, but not business functionality. You really need to look under the covers and understand the method of sensing the granular business activity and how the automation engine can detect the event, while minimizing the machine resource usage and overhead, particularly when 'Green IT' can be a government-mandated initiative.

Today's workload automation must be both useful and usable at very granular levels, which in many cases are transactional in nature, whether they are Internet based or not. For

many companies a significant portion of their annual revenue is coming from e-commerce transactions. So it makes sense that automation should be able to detect these activities and immediately trigger the processing accordingly.

Workload Automation processes can now be triggered by JMS or MQ Series messages, HTTP objects, or other methods, which are a direct result of a business user transaction. This allows the next generation of Workload Automation to have a direct relationship to the business, while complying with the #1 rule of automation, automate at the lowest level possible.

## Overcoming 'Knowledge Base' Gaps

While the newer, next-generation data centers can embrace the emerging technology, the more established enterprise data centers, with many long-term staff that are reaching retirement age, find it more difficult to let go of the old job scheduling ways.

Even when companies choose a complete product replacement, rather than embrace a more modern and immediate way of triggering processing, the users are looking for the schedule load process, and the old techniques that became second nature to them. They are not familiar with the parameters and terms used with the web-based technology of today's IT processes; it can be a little overwhelming to them.

It happened when the ERP systems began to roll in several years ago. In

some companies, the data centers refused to manage the new technology, chosen solely by the business areas themselves. But, it became challenging when the processing that was executing on the newer technology, managed in the applications area, needed to integrate with the technology being managed in the data center. The application areas also learned of the demands of managing and maintaining infrastructure components 24x7 by 365 days a year.

However, today's advanced Workload Automation solutions typically come with drag and drop visual interfaces to allow even novice users to quickly define workload, but users must look beyond a fancy interface. The challenges with first and even second-generation job scheduling or automation tools had to do with HOW a user must perform routine tasks. A few sample challenges include:

- How many calendars are required for defining workload to execute appropriately?
- What type of maintenance is required?
- How granular can security be setup to allow for end business users to actually trigger the workload?
- What kinds of features allow for more efficient definition of "cookie-cutter" applications where only a few naming changes determine which business entity the data is being processed?
- Could strong variable substitution capabilities enable

the rapid business growth with the least possible effort for IT to add new business entities?

- Are there capabilities within the product to allow for more automation across the growing number of servers, to be done without any additional workload definitions to be required?
- How difficult and error-prone is agent configuration, as the expected number of servers, both physical and virtual, continues to rise.

The best advice ever given when defining workload automation processes is this..."You only DEFINE the workload once, the rest of its life you are maintaining it. So, if there are techniques to make the ongoing maintenance easier, take the extra time upfront to define the workload using those techniques." Companies have been able to apply that logic and decreased their workload definitions by over 75%. When it came time to make updates to workload definitions, or even add new business entities, it was a simple process for them. This enabled their business to grow at a rapid rate, while not being impeded waiting on IT to deliver the new capabilities.

Another challenge when coming from older technology to more modern, innovative technology is for the people to embrace the advantages in the technology. Too many times, companies will opt to make a change in the vendor solution, but while doing the "conversion"; they just end up

converting their existing definitions, right or wrong, over to the new tool.

They do a straight 'apples to apples', or 'garbage to garbage' conversion. If you are fortunate, you will have managers that understand the pitfalls of this process, it's a "garbage-in, garbage-out" method, and no one ever goes back and optimizes after the conversion, in "phase 2". This method also gives your staff the permission to sink their heels in and demand the "new" product work in exactly the same way as the "old" product. You enable them to derail the evolution of your automation strategy and disrupt your ability to improve the value you can deliver to the business.

You probably had a very good cost justification that prompted you to make the switch, and it was probably more than just related to the license or maintenance cost. Changing scheduling products today must be done for specific business reasons that bring significant ROI and actual business benefits.

If you are entertaining a change in scheduling vendors, make sure you investigate the benefits you can expect at the outcome of the initial conversion, not what could be expected after Phase 2 of the conversion, it will never happen. Because once the initial conversion is complete, other projects will likely take precedence over "phase 2" of the scheduling conversion project.

But, is a conversion really necessary? Some companies have successfully brought in additional automation solutions to meet a specific business

need. Oh, the big vendors don't like that, they want to lock you into one solution, and then hold your feet to the fire when it comes time for a renewal. They may have been phasing out one technology platform and moving new workload to a distributed platform. In some cases, companies want to de-centralize processing and move the application development and the operational control closer to the business. In these cases, it makes sense to bring in the right automation tool to meet the business needs.

Today's user not only wants a nice visual interface, they want an interface they can fully access from anywhere and control the workload processing, as well as run reports, make changes, and perform any other function within the product.

The users of the workload automation products have expanded beyond the data center, into the application development areas, where they can apply powerful automation techniques and use automation in the development and testing phases as well as in production. Sometimes, companies are even going beyond that and enabling the end business users to be able to use workload automation as well.

### **Exploiting Automation to Accelerate Application Development**

Typically in IT shops today, the Application Development team works closely with the business users to design and develop the application to deliver the required functionality to the business. Many times these design meetings occur and the development

begins without the Application team knowing the full range of possible solutions available to them. Tools that will enable them to not only deliver the functionality according to the business expectations, but possibly deliver it much faster than expected.

Too many times, IT shops are segregated into areas like Data Center Operations, Application Development, and Infrastructure Management. Each is familiar with their own set of tools, and in some cases very territorial of their tools. But in order for the business to be more successful, it's time to tear down the walls and begin to share the tools, for the good of the entire company.

Now, there are some data center tools, specifically old job scheduling tools, that are quite cumbersome to use, take years or even decades to become proficient at, and can inhibit creativity in automating complex business processing. The Application Developers want nothing to do with these tools, and have no interest in becoming 'job schedulers', and that is probably not the best use of the higher-priced talent.

Today, many IT shops find that a chasm exists between the application developer and the data center, where the production workload ultimately is processed and monitored. The application developer will gather the business requirements, design and build the application, then, when they are ready to go into production, they hit a brick wall at the data center. It seems that what they built will not integrate with the infrastructure or management capabilities of the data

center, and the production implementation gets delayed.

There have even been cases where the application team takes matters into their own hands and decides to manage the production processing on their own, and they go select a tool that meets their needs. This can work, for a short time, until the commitment and effort becomes more than the application team initially expected.

It would be better if there were a single tool that could be used across the IT areas to provide automation that could be exploited to accelerate the delivery of new business functionality. Using an advanced automation tool could allow developers to design, more thoroughly test, and implement new functionality to support critical business initiatives much faster. The data center would receive a more thoroughly tested application that would integrate well within the infrastructure currently supported by IT.

### **Bringing Automation to The Business**

Application Developers have been responding to the needs of the business for years, but never before has Workload Automation capability been so mature and so secure, that it could actually be put in the hands of the end user. With today's technology, you can be anywhere in the world, or even above it in an airplane, and access your bank account, order merchandise, schedule your next flight... The processing that must take place as a result of that activity must

also be triggered to execute immediately.

It used to be, a few short years ago, that processing the business data overnight, or even in three-hour intervals was acceptable. But in today's technology age, that is no longer acceptable. Can you imagine someone stealing your credit cards or check card, notifying your bank and have them tell you it will start denying any transactions in about 3 hours?? The thief will be well over your credit limit by then and will have drained your bank account.

Today's business requires immediate response to a user transaction. Yet still some IT shops think in terms of methodical, expected processing, and shudder at the thought of ever processing a random file that arrives unexpectedly. Recently, an IT Manager gave that exact response to the thought of processing a random business transaction, then a few minutes later, when he better understood the newer workload automation capabilities, he realized the value that could bring to his customers and how they might be quite happy about it.

Several years ago the mantra was "Aligning IT to the Business", yet many IT professionals could not tell you what value IT delivered for the business, and the methods in which it delivered it. It was a nice marketing message, but really had no meat behind it. However, what we did see was that IT became more business focused. Instead of being seen as solely a cost center, that brought no real value to the company, it was seen

as a vehicle for improving business capability, and was challenged to prove the need for technical purchases as it related to the business.

Bringing automation to the business is about putting the controls of the processing in their hands. When they enter the data on the website and hit the submit button, several actions could be triggered, financial transfers, merchandise ordered, education courses registered, transportation schedules arranged, etc.

The Internet has given 'real-time processing' new meaning, well beyond seeing job start and job end times much quicker.

The business user, whether internet based, kiosk-based, or onsite at a facility connected to your internal systems, needs to be able to initiate processing that could involve various operating systems and types of processes. It may even require integration with legacy workload processing somewhere down the line.

Think about some of the transactions, you, as a consumer and business user conduct throughout the day or the week. You have come to expect a certain level of service that will include some type of immediate processing of information. What will you do when you try to conduct business somewhere and they cannot process the information or give you what you are looking for? You go elsewhere, right?

This could be a big issue depending on how competitive your industry is. You may not only be looking at the current

transaction, but the level of service may determine your future interaction with this business. So today's businesses are faced with losing the customer loyalty that businesses once relied on. With the world at our fingertips, we can access goods and services from anywhere. And with the social media sites and consumer-driven sites that rate companies and the service received, it is more important than ever to provide exceptional service to your customers.

### **Elevating The Business Value**

Just a few years ago we began seeing the shift start to take place with advanced Workload Automation. The vendors who understood the need to randomly and immediately initiate workload processing either were able to leverage the existing architecture of the current solution, or they built an automation solution to handle both the legacy and the future needs of workload processing in mind.

Workload Automation in the twenty-first century has different needs that cannot be efficiently retrofitted to older technology. Today's workload must be able to be initiated directly by business activity, WITHOUT having a constant polling process instituted by event sensors to see if there is any workload to trigger. The technology must be designed for instant initiation, without the overhead of churning thru a database constantly looking for work.

When granular database triggers were introduced a few years ago, that included workload automation

building actual triggers within a database structure, infrastructure staff was a bit skeptical at first. Then, when they fully understood the technology, and they understood the positive effect for their customers, they quickly blessed the solution. The automation was able to accelerate the delivery of the new functionality by eliminating any manual errors in the processing, and allowed the customers to get their information more immediately.

Today's business needs automation. Automation that is dead simple to use and that can be triggered behind the scenes immediately when business transactions occur.

Competition for business is fierce these days and the economy is adding it's own challenges as well. IT must deliver the right tools for the business to succeed.

Maybe it's time you took a good hard look to understand the business value your workload automation is bringing to your companies bottom line?

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