What is Batch Processing?
Batch Processing Explained

Simply put, Batch Processing is the process by which a computer completes batches of jobs, often simultaneously, in non-stop, sequential order. It’s also a command that ensures large jobs are computed in small parts for efficiency during the debugging process.

This command goes by many names, including Workload Automation (WLA) and Job Scheduling. Like most things in programming, it’s changed over time. And depending on your generation, you may know it as one or the other.

But the changes have made batch job processing more sophisticated and efficient. For many businesses, it’s a necessary component to their daily success.
The Evolution of Batch Processing

Today, a defining characteristic of Batch Processing is its lack of user interaction. There are few, if any, manual processes to kick it off. This is part of what makes it so successful and efficient. But that was not always the case.

Batch Processing began with the use of punch cards that were tabulated to tell computers what to do. Often decks, or batches, of cards would be processed at one time.

This practice goes back to 1890 when Herman Hollerith created punch cards to process Census data. Working for the U.S. Census Bureau, he developed a system by which a card that he punched manually was read by an electromechanical device. Hollerith would go on to form a company that was later known as IBM.

The punch card revolutionized the way businesses operated – but that was then. Over the past two decades, Batch Processing has evolved yet again.

Data entry professionals are no longer necessary to the process. Most Batch Processing functions are enabled without interaction, and they are completed to meet specified timing needs. Some jobs are completed in real time with daily monitoring and reporting features, others are done immediately.

Today’s Batch Processing uses exception-based management alerts to notify the right people if there are issues. This allows managers the freedom to work without regularly checking in on the progress of batches. The idea is that managers need not check in at all unless they receive an alert about a critical exception.

Exceptions are determined by a system of dependencies and monitors that are essential to the software.
Dependencies are the event that triggers the Batch Processing to begin. This could be that a customer places an online order, or a system generated request for new supplies comes in. The dependency has set the Batch Processing in motion.

Monitors are looking for abnormalities in the batch. Perhaps, one job is taking longer than normal to complete. The next job can’t begin until the one before it ends. If this is causing an unusual delay, the monitor will catch it and an exception will be generated and sent to the manager.

Pros and Cons of Batch Processing

There are a number of reasons why companies deploy Batch Processing systems. While there are several advantages to Batch Processing, there can be disadvantages to using these systems also. Business owners should look at the total impact when deciding on new software for their organization.

Advantages

A Fast, Lower Cost Solution

Because Batch Processing does not need Data Entry clerks to support its functioning, it helps to reduce the operational cost that businesses spend on labor. It also doesn’t require any additional hardware to function, outside of a computer.

In fact, using Batch Processing can reduce a company’s reliance on other expensive pieces of hardware, making it a relatively inexpensive solution that helps businesses save money and time.

Without the possibility of user error, Batch Processes are completed in the most efficient way possible. The result is fast, accurate processing and managers who have more time to spend on day-to-day operations.
Offline Features

Batch Processing systems work offline, so when the work day ends for most people in an organization, batch systems are still processing in the background.

This gives managers ultimate control over when to start processes. Software can be set for overnight processing of certain batches. This provides a convenient solution for businesses that don’t want a job like automatic downloads to disrupt daily activities.

Easy, Hands-Off Management of Large, Repeating Processes

Managers have enough to do without logging in every hour to check on their batches. The exception-based notification system of modern Batch Processing software makes it easy for managers to do their job without worrying about whether their software is functioning properly and if batches are being completed.

If there’s an issue, notifications are sent to the right people to solve it. Managers can take a hands-off approach, trusting that their Batch Processing software is doing its job.

Disadvantages

While Batch Processing software is great for many reasons, there are a few things that owners should consider before implementing these WLA systems.

Deployment and Training

As with any new technology, there’s some degree of training involved in managing these systems. Managers who are not familiar will need to understand what triggers a batch, how to schedule them, and what exception notifications mean, among other things.
Debugging Can Be Tricky

When an error occurs, managers also need to know how to fix it. Debugging Batch Processing systems can be understandably complex. If there isn’t someone within your organization that has a deep understanding of these systems, there may be a need for an outside consultant to assist.

Cost

While most businesses save money on labor and hardware when they switch to Batch Processing, some businesses don’t have data entry clerks or expensive hardware needs to begin with. For these businesses, some of the Batch Processing systems may seem like an unfeasible cost.

Do I Need Batch Processing?

You likely have a clearer picture now about who needs Batch Processing software, and you may be asking yourself if it’s right for you. Batch Processing can be valuable for any business, but it’s most feasible for midsize to large businesses that can reduce costs and become more efficient and scalable.

Other companies that have a number of large jobs to process would benefit from this type of software as well. If you’re still not sure if you need Batch Processing, here are some questions to answer:

- How do you ensure that manual jobs are done correctly? Do you have a system in place to determine that they have been submitted and processed in the correct order?
- Do you have jobs waiting to start that are contingent on another completing? Do you have a system in place to track each job to completion or that knows when the first job will be done?
- Do you manually check for new files? Does your script
loop frequently enough to be efficient when checking for files?

- **Do you have a current setup with job-level retries on your server? What impact does it have? Would you benefit from less stress being put on the server?**
- **How do you track dependencies across servers? How do you know the dependent server will be available when needed?**

If your answers to these questions do not make you feel confident in your methods, it’s time to consider how Batch Processing can impact your business.

**Batch Processing: Automated Job Scheduling for Your Business**

For more than a century, Batch Processing has been helping businesses automate data entry into something functional.

It’s evolved a great deal, from a simple punch card that organized Census data to decks that told computers how to function – and now automated workflow processes that don’t require people at all. Batch Processing can help you do more to meet business demands.

By design, modern systems aim to free up managers from daily minutiae, prevent user error and promote fast, efficient completion of jobs with little oversight. Batch Processing has the added effect of saving money for almost all of the businesses that deploy it.

It isn’t without its considerations, though. Deployment can be difficult to navigate for a small business with few IT resources. Debugging and software maintenance can prove to be an obstacle for those without experience.

Companies without the IT staff to implement a successful deployment and maintenance plan can still benefit from Batch Processing. But they should prepare on the front end to invest
time and money in partnering with IT experts to ensure a successful launch and end user experience.

If you’re still wondering if Batch Processing is the right solution for you, think about examples of where you might use this function in your business. Are there gaps that you could fill with automation?

To name a few, these might include:

- Payroll Processes and Employee Time Sheets
- Bank Statements
- Line Item Invoicing
- Stream, Analytics and Transaction Processing
- Research and Reporting
- Email Systems
- Supply Chain and Fulfillment
- Other Requests

As a rule of thumb, if you find yourself regularly doing large computing jobs manually, there’s a good chance the right Batch Processing software could be the key to freeing up more time and money for your organization.

BMC’s Control-M Automation API simplifies scheduling and enables developers to avoid rework, reduce pressure, and accelerate the speed of application delivery by up to 30%. For more information on Control-M, please click here.

Additional Resources

Manage sl as for your batch services joe goldberg from BMC Software